Health Care Costs for the Elderly in Ontario: 1976 - 2026

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M. John Gross and Cope W. Schwenger

Occasional Paper 11

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Preface

At the time we collected our data Ontario had over three-quarters of a million persons 65 years of age and older, amounting to about 9 per cent of the provincial population. The age structure of a population is a crucial factor in planning and providing health services because the elderly are more intensive users of health care services than other groups; they are also the fastest-growing segment of the population. The present health care delivery system, both institutional and non-institutional, does not always meet their needs either efficiently or effectively.

This report studies the present and future requirements and expenditures for health services to the aged in Ontario. Its basic tenet is that a health care policy for the elderly must be based on a broad 'gerontological' approach that recognizes the full range of their health needs and the type of government services those needs entail rather than on a narrow 'geriatric' approach accentuating simply the need for and provision of medical and institutional services. The gerontological approach corresponds to the broadest possible definition of health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

Many aspects of the gerontological approach are closely interrelated – for example, housing, social services, recreation, education, and transportation – all of which have significant health and cost implications. Income, accommodation, and family support may well be more important than health services in keeping older people out of institutions.

We believe the elderly should be encouraged to participate in making decisions affecting the health care system. Accordingly, we tried to obtain the opinions of elderly Ontarians about their own health and what they think should be done about the health care system.

The year 1976 was chosen both for our assessment of the status quo and as the base for our projections. It was the most recent year for which much of

the necessary data were obtainable, including recent census material. It was decided to project the future use of health services and future health costs ten years (1986), twenty-five years (2001), and fifty years (2026) forward. (The members of the post-war baby boom will be entering old age around 2010.) The needs of the elderly were examined, where possible and where appropriate, not only by sex but also by subgroups – 'young-old' (65–74), middle-old (75–84), and 'old-old' (85+) – since health problems and health care needs vary significantly within the whole 65+ group.

This study was carried out under the sponsorship of the Ontario Economic Council between May 1977 and March 1979. Further information on the topic, particularly with regard to the development of tables and methodological details, is contained in another study by one of the authors (Gross, 1978).

This study has the following structure. Chapter 1 examines the present situation of the elderly in Ontario and includes an analysis of demographic, socioeconomic, and epidemiological variables. Chapters 2 and 3 scrutinize the present system of health care and health-related social services, both institutional and non-institutional. Chapter 4 projects the numbers and proportions of the Ontario population at various future dates. Chapter 5 reviews the literature on the determinants of health costs for the elderly. Chapter 6 estimates the present cost and utilization of institutional and certain other major health services to the aged and forecasts the service and financial requirements for caring for an aging population. Chapter 7 assesses present inefficiencies in the institutional care of the elderly due to inappropriate use of services. Chapter 8 investigates the question of excessive institutional care and institutionalization of the aged, examines alternatives to institutional care, and presents a summary of our findings. Appendix A explains our method of costing institutional health services to the elderly, and Appendix B outlines the views of the elderly themselves on their own health and the health care system as it affects them. The policy implications for Ontario of all these questions are discussed at the end of each chapter and especially in Chapter 8.

As an aid to the reader all abbreviations used in this report are defined on page 189.

The following material, which pertains to this study, is available on request from the Ontario Economic Council: 'The Elderly in Ontario' by R.W. Osborn and V.J. Sanders (see also Appendix B); a bibliography of references to the costs of health care to the aged; 'A survey of gerontology-geriatric curriculum content in baccalaureate programs in nursing in Ontario' by J. Mantle; and 'Research in social gerontology in Ontario' by V.W. Marshall, B. Cowan, and S.A. Yelaja.

Acknowledgments

We wish to thank all those individuals and agencies that have been helpful to us in preparing this report.

First, of course, we are grateful to the Ontario Economic Council which provided the financial backing to carry out the study in the first place. We wish to thank the various staff members of the Council, particularly Morris Barer, who provided a great deal of help both in getting the project off the ground and in its final completion; Paul Lonergan, who in his very concerned and efficient manner gave us continuing administrative support and encouragement throughout; Lorie Tarshis, who assisted in developing and restructuring the report; and our editor, Freya Godard, whose skill and patience saved our manuscript from oblivion.

Special thanks must be extended to Robert Evans, who was a visiting National Health Scientist in the Department of Health Administration at the University of Toronto during the time of the study. Bob's incisive criticism and good humoured and helpful suggestions were crucial to the basic design and methodology used, especially in the examination of the costs to the elderly of active treatment care. We also are indebted to Gene Vayda, without whose help we could not have begun, and whose advice and encouragement throughout were invaluable. Another person deserving special mention is Jack Williams, who not only helped us whenever requested but also provided us with office space in the Health Care Research Unit, far from the madding crowd, where hard work could be done without interruption.

We are very grateful to Dick Osborn and Vicky Sanders for their survey of the opinions of elderly Ontarians. Our appreciation is extended to Jessie Mantle for her report on the gerontological and geriatric content in the Ontario BScN curriculum. Similarly, many thanks are due to Vic Marshall and his colleagues for their study of gerontological research in the province. And

we are grateful for the compilation of material from letters made by Georgia Woods in the survey in *Especially for Seniors*.

Others who offered helpful criticism and advice at various stages of this undertaking were Raisa Deber, Maureen Dixon, Claire Bombardier, Kerle Palin, George McCracken, Bill Mindell, Milton Orris, and Alan Wolfson of the Department of Health Administration; David Hewitt, secretary of the Graduate Department of Community Health; Harold Segal of the Faculty of Pharmacy; and Murray Hunt of the Faculty of Dentistry; all of the University of Toronto. We would also like to thank Ronald Bayne and Rory Fisher for their important geriatric advice.

Several agencies provided the abundant and essential information examined in these pages. Particular mention should be made of K.S. Gnanasakaran and the staff of the Population Estimates and Projection Division and of Jo Hauser and the staff of the Health Division, all of Statistics Canada. Our thanks go also to John Smiley and the staff of the Data Development and Evaluation Branch of the Ontario Ministry of Health and to Lawrence Crawford and the staff of the Senior Citizens Branch of the Ontario Ministry of Community and Social Services. Without their contributions this research project would not have been possible.

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Lastly, we would like to thank our wives and families for their support and encouragement throughout this two-year undertaking.

HEALTH CARE COSTS FOR THE ELDERLY IN ONTARIO: 1976–2026

1

Elderly persons in Ontario– demographic, socioeconomic, and epidemiological characteristics

DEMOGRAPHIC CHARACTERISTICS

How many elderly Ontarians are there, and what proportion are they of the total population? What is their dependency ratio, their sex distribution, marital status, and life expectancy? Where do they live? Those questions can be answered by examining census material for 1976, an interdecennial census year.

Table 1 shows the age and sex distribution in 1976 of the Ontario population by age categories, with special reference to subgroups of the aged.

The Ontario population aged 65 and over can be subdivided into 458,200 young-old (65–74), 219,975 middle-old (75–84), and 60,745 old-old (85+). The groups comprise 5.5, 2.7, and 0.7 per cent respectively of the total Ontario population.

Is Ontario a relatively old or young province? Figure 1 shows how other provinces compare and what changes have occurred since 1951.

In 1976 Ontarians aged 65+ constituted well over one-third (36.9%) of all Canadians aged 65+. As a proportion of the total population, the 8.9 per cent of Ontarians aged 65+ is virtually the same as the Canadian average (8.7 per cent). The proportion in the ten provinces varies from a low of 6.6 per cent in Newfoundland to almost twice this proportion, 11.2 per cent, in Prince Edward Island, with variations due to different fertility rates and migration into and out of each province. For instance the steady drop in the proportion of elderly people in British Columbia from 1951 to 1971 reflected the inflow of predominantly young immigrants. In Ontario the percentage of the population aged 65+ has increased from 5.1 per cent in 1901 to slightly less than 9 per cent in 1976. The decline in the proportion of elderly people in Ontario during 1951–61 from 8.7 per cent to 8.1 per cent can be attributed

TABLE 1
Age and sex distribution of the Ontario population: numbers and percentages, 1976

	Men		Women		Total	
Age	No.	%	No.	%	No.	%
0–19	1,475,650	36.0	1,406,130	33.7	2,881,780	34.9
20–64	2,310,900	56.4	2,332,865	56.0	4,643,765	56.2
65–74	206,920	5.1	251,280	6.0	458,200	5.5
75–84	84,035	2.1	135,940	3.3	219,975	2.7
85+	19,360	0.5	41,385	1.0	60,745	0.7
Total	4,096,865		4,167,600		8,264,465	
65+	310,315		428,605		738,920	

SOURCE: Statistics Canada (1976a)

to the masses of immigrants who poured into the province, together with an increase in the fertility rate (Kalbach and McVey, 1971).

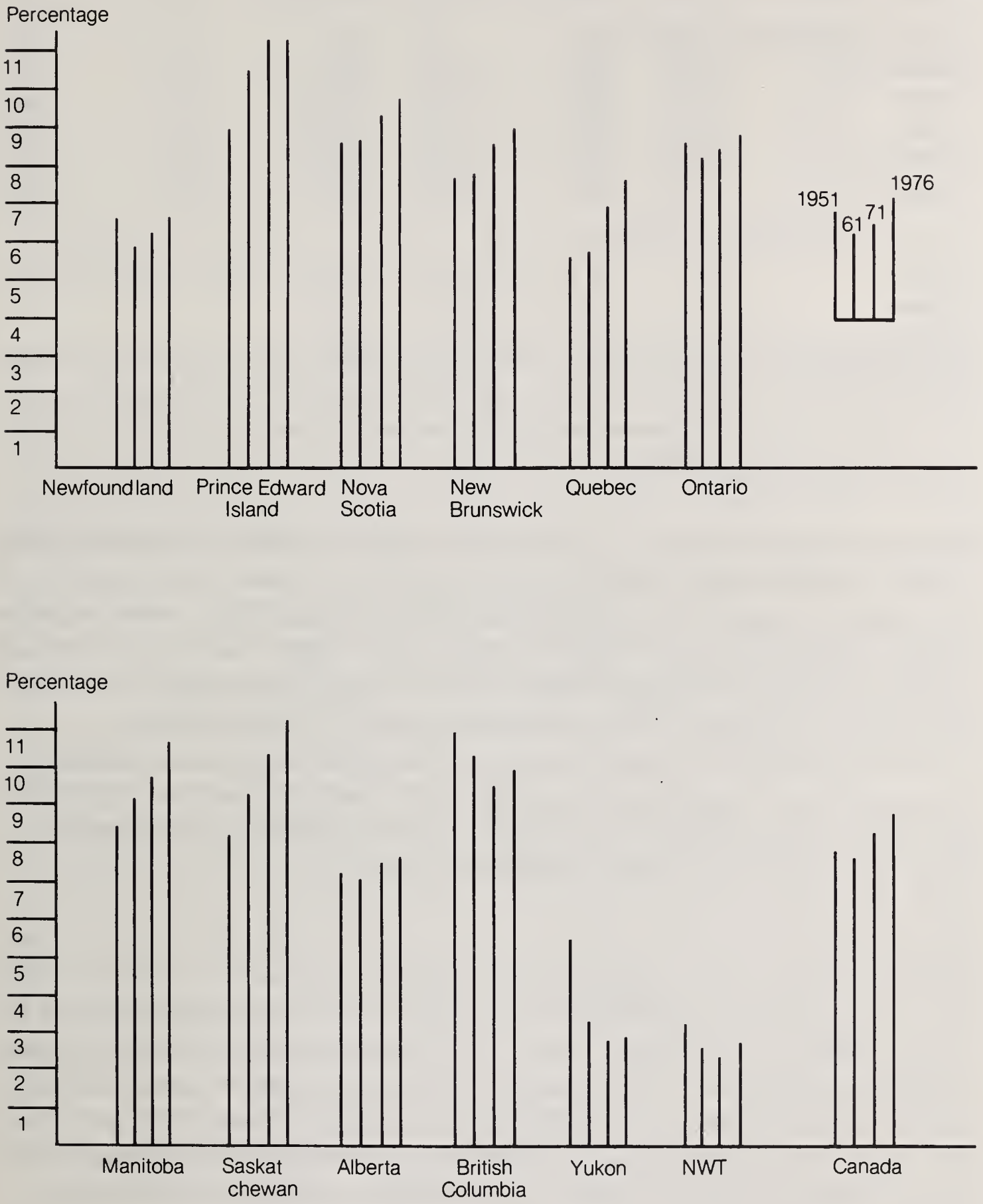
At 8.9 per cent for Ontario and 8.7 per cent for Canada, the proportion of elderly makes the province and country what might be called young-old. The United Nations has proclaimed a proportion of 8 per cent as distinguishing 'old' countries from 'young' ones. Ontario passed this point much earlier than the country as a whole, but Canada has been gradually catching up, particularly in the last twenty-five years (Figure 1). Many other countries have a far higher percentage of elderly: in 1973 seventeen countries in Western Europe and the United States had at least 10 per cent of their population in the 65+ group (Auerbach and Gerber, 1976).

Differences between and within counties

Within Ontario there are of course considerable variations from county to county. Table 2 lists the five census divisions with the highest proportions aged 65+ and the five with the lowest in 1976.

The variation is from a low of 4.0 per cent aged 65+ in Peel County to a high of 15.6 per cent in Haliburton (almost four times as great). The problems of the elderly would loom much larger as a priority in the five counties in the top half of Table 2 than for those in the bottom half. The counties in the top half might be described as rural cottage areas. If one visits these areas in the winter (and avoids the weekends) it is not difficult to detect the high concentrations of elderly residents left behind by the departure of the younger population to urban areas with more opportunities. The counties in the bottom half fall into two categories: either suburban with high concentra-

Figure 1
Percentage of the population 65 + , Canada and the provinces



Source: Statistics Canada (1964, 1971a, 1976a)

TABLE 2
Ontario census divisions with highest and lowest proportions of elderly, 1976 (percentages)

County	Aged 65–74	Aged 75–84	Aged 85+	Total aged 65+
Counties with highest proportion of elderly				
Haliburton	10.8	3.9	0.9	15.6
Victoria	8.9	3.9	1.0	13.8
Grey	8.1	4.1	1.2	13.4
Manitoulin	8.6	3.7	1.1	13.4
Muskoka	8.7	3.7	0.9	13.3
Counties with lowest proportion of elderly				
Kenora	4.4	1.8	0.4	6.6
Algoma	4.2	1.8	0.5	6.5
Halton	3.6	1.6	0.5	5.7
Sudbury Region	3.5	1.3	0.3	5.1
Peel	2.5	1.1	0.4	4.0

SOURCE: Statistics Canada (1976a)

tions of young families, or northern areas not particularly hospitable to the elderly. For forty-two of the fifty-three counties in Ontario the proportion of the population aged 65+ increased between 1971 and 1976; in two counties it was unchanged; and in only nine was there a slight reduction. The vast majority of the province's residents have been aging rather rapidly – from 8.4 per cent 65 and over in 1971 to 8.9 per cent in 1976. (See Figure 1).

It is even more important to note the difference in proportions aged 85+ because of their much greater need for health and social services. Here there is a fourfold increase from a low of 0.3 per cent in the Sudbury Region to a high of 1.2 per cent in Grey County (see Table 2).

Dependency ratio

The dependency ratio compares those in the population who are not working (i.e. those who are dependent) with those who are working (i.e. those on whom they are dependent). This ratio is used to represent the so-called burden of dependency. The definition of dependent ages varies considerably. Internationally, however, total dependency is most often depicted as follows: the population under 15 years plus the population aged 65 and over divided by the population aged 15–64, and converted to a percentage (Table 3).

One can see the child dependency ratio (Column 3) dropping during the Depression (1931), then rising with the post-war baby boom (1961), and

TABLE 3
Population dependency numbers and percentages, Ontario 1901–76

		<15		65+		<15 + 65+	
	15–64 (000)	No. (000)	% 15–64	No. (000)	% 15–64	No. (000)	% 15–64
1901	1,337.1	685.2	51.2	120.6	9.1	805.8	60.3
1931	2,338.5	959.0	42.8	234.2	10.5	1,193.2	53.3
1961	3,720.3	2,007.7	54.0	508.1	13.7	2,515.8	67.7
1966	4,189.1	2,204.1	52.6	567.7	13.6	2,771.8	66.2
1971	4,850.2	2,208.5	45.5	644.4	13.3	2,852.9	58.8
1976	5,451.8	2,073.8	38.0	738.9	13.6	2,812.7	51.6

SOURCE: Statistics Canada (1964, 1966, 1971a, 1976a)

finally dropping rather rapidly after 1966. The aged dependency ratio also rose to a peak in 1961 and has remained more or less the same through the last four censuses. The total dependency ratio was highest in the 1961 and 1966 censuses and has declined considerably since 1966, a trend expected to continue until the turn of the century when the ratio will begin to rise (Auerbach and Gerber, 1976).

Sex distribution, marital status, and life expectancy

Tables 4 and 5 show respectively the sex distribution of those 65+ by rural and urban location in Ontario and the marital status by young-old, middle-old, and old-old in 1976 (urban population in Canada is defined as persons living in an area having a population concentration of 1,000+ and a density of 1,000+ per square mile).

Old age (65+) in Ontario is predominantly a women's world (58 per cent are female) and becomes more so as age increases. From Table 1 it can be seen that 2.6 per cent of men and 4.3 per cent of women are 75 years of age and over. After 85 years the proportion of elderly females is exactly double that of elderly males (1.0 per cent compared with 0.5 per cent). The change in sex distribution from urban (59.9 per cent female) to rural non-farm (50.5 per cent female) to rural farm (43.7 per cent) reveals the last elderly male bastion in the province. One reason for this is that elderly widows retire to rural non-farm and urban areas (frequently small towns and villages), whereas non-married men can continue farming longer.

As for marital status, naturally enough, the proportion of widows and widowers among the elderly increases, and that of married elderly persons decreases with age. However, there is a striking difference between men

TABLE 4
Sex distribution of elderly urban and rural dwellers, Ontario 1976

	Men 65+		Women 65+		Total 65+	
	No.	%	No.	%	No.	%
Urban	242,865	40.1	362,270	59.9	605,135	100.0
Rural non-farm	57,750	49.5	58,810	50.5	116,560	100.0
Rural farm	9,700	56.3	7,525	43.7	17,225	100.0
Total	310,315	42.0	428,605	58.0	738,920	100.0

SOURCE: Statistics Canada (1976a)

TABLE 5
Marital status of the elderly by age and sex, Ontario 1976 (percentages)

	Men			Women		
	65–74	75–84	85+	65–74	75–84	85+
Single	8.1	8.5	9.7	8.7	10.0	12.0
Married	78.9	64.8	40.0	48.1	23.8	7.7
Widowed	9.2	23.8	48.5	39.7	64.6	79.6
Divorced or separated	3.8	2.9	1.8	3.5	1.6	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Statistics Canada (1976a)

over 85 (less than 50 per cent of whom are widowed) and women over 85 (less than 8 per cent of whom are still married)! This difference implies a growing proportion of very old women living alone and needing an increasing number of support services and facilities. Also notable is the higher percentage of single elderly and the decreasing percentage of divorced or separated elderly as age increases.

The reason for discrepancies in sex distribution and marital status is of course the difference between male and female life expectancy. (Table 6 shows the average life expectancy for ages 65, 75 and 85 from 1951 to 1976).

In 1951 the difference in average life expectancy between 65-year-old men and women was less than two years; in 1976 it was over four years. For 85-year-olds in 1951 there was a difference of only a few months, in 1976 it

TABLE 6
Average years of life expectancy of the elderly at selected ages in Ontario, 1951–76

	Men			Women		
Year	65	75	85	65	75	85
1951	13.31	7.89	4.27	14.97	8.73	4.57
1956	13.36	7.98	4.27	15.60	9.15	4.97
1961	13.53	8.21	4.46	16.07	9.48	4.89
1966	13.63	8.37	4.79	16.71	9.94	5.16
1971	13.37	8.20	4.51	17.57	10.74	5.78
1976	13.71	8.34	4.53	17.92	10.95	5.69

SOURCE: Statistics Canada (1964, 1966, 1971a)

was well over a year. This means a growing number of elderly women living on their own and in need of community support.

Where elderly Ontarians live

Rural counties generally have higher concentrations of the elderly, largely because of the outmigration of the young. However, this fact does not mean that a higher proportion of elderly Ontarians are rural or that 'more rural' necessarily means 'more elderly,' as can be seen from Table 7.

In spite of the concentration of the elderly in rural areas, the Ontario elderly seem generally as urbanized as the total population except for metropolitan areas (100,000+). There is a rise in the percentage living in communities of 1,000–99,999 as the age increases from 65–74 (24.1 per cent) to 85+ (28.1 per cent). Similarly, there is a drop by age in rural non-farm and farm areas, where the percentage of the elderly is distinctly lower than for the general population (3.4 per cent), because, as already noted, the elderly have increasingly been retiring from their farms as they grow older.

Where have they been retiring to? As the size of the urban municipalities becomes smaller, the proportion of the elderly gets progressively higher. In Ontario in 1976, 8.5 per cent of the population in cities of 100,000 or more were elderly (aged 65+), while the figure was 9.1 per cent in cities with 30,000 to 100,000 persons, 10.4 per cent in those with 5,000 to 30,000 and 13.0 per cent in communities of 1,000–5,000. A number of small villages and towns in southern Ontario have extraordinarily high proportions of older people. They are truly 'retirement communities,' which often have a higher percentage of elderly than many communities in the American 'sun belt.'

TABLE 7
Urban and rural concentrations of elderly persons at various ages, Ontario 1976

	Aged 65–74		Aged 75–84		Aged 85+		Total Ontario population
	No.	%	No.	%	No.	%	%
Urban							
100,000+	260,860	56.9	125,430	57.0	34,120	56.1	59.8
1,000–99,999	110,200	24.1	57,490	26.2	17,045	28.1	21.4
Total urban	371,060	81.0	182,920	83.2	51,165	84.2	81.2
Rural							
Non-farm	75,200	16.4	32,775	14.9	8,575	14.1	15.5
Farm	11,940	2.6	4,280	1.9	1,005	1.7	3.4
Total rural	87,140	19.0	37,055	16.8	9,580	15.8	18.8
Total Ontario	458,200	100.0	219,975	100.0	60,745	100.0	100.0

SOURCE: Statistics Canada (1976a)

One study of rural Ontario in 1971 (Schwenger and Palin, 1974) found that 28.3 per cent of the residents of Dundalk, a town in Grey County with a population of 1025, were aged 65+, as were 29.5 per cent of the residents of Chesley, a town of 1695 in Bruce County. Even so the elderly, like the rest of the population are generally becoming more urbanized. These changes are due largely to the aging of the existing population in place rather than migration of the elderly after retirement (which, although it does occur, is of much less consequence).

What about Metropolitan Toronto? According to conventional wisdom the highest proportion of the elderly live in the downtown core of cities, where people have been living the longest. Until recently this was true, but the situation is changing, as can be seen in Tables 8 and 9.

Whereas the elderly as a percentage of the total population has stabilized in the City of Toronto, the oldest Toronto suburbs of East York and York have been aging rapidly as their middle-aged residents grow older (see Table 9). Of the elderly that moved to Metropolitan Toronto from 1961–66, most settled in the suburbs, and of the elderly leaving Metro most moved from the City of Toronto (Golant, 1972). The City of Toronto consistently experienced net emigration of the late middle-aged and elderly to rural and other urban areas, while the five boroughs experienced net immigration of both late middle-aged and elderly persons.

TABLE 8
Distribution of the elderly in Metropolitan Toronto by borough and age group, 1976 (percentages)

	Aged 65–74		Aged 75–84		Aged 85+		Aged 65+	
	No.	%	No.	%	No.	%	No.	%
City of Toronto	44,710	7.1	23,450	3.7	6,515	1.0	74,675	11.8
East York	9,690	9.0	4,275	4.0	1,220	1.1	15,185	14.1
York	9,060	6.4	4,090	2.9	965	0.7	14,115	10.0
Etobicoke	16,150	5.4	6,790	2.3	1,730	0.6	24,670	8.3
North York	27,265	4.9	11,700	2.1	3,195	0.6	42,160	7.6
Scarborough	15,320	4.0	7,220	1.9	2,110	0.5	24,650	6.4
Metro Toronto	122,195	5.8	57,525	1.7	15,735	0.7	195,455	9.2

SOURCE: Statistics Canada (1976a)

TABLE 9
Population aged 65+ in Metropolitan Toronto by borough, 1961–76 (percentages)

	1961	1966	1971	1976
City of Toronto	11.2	11.1	11.0	11.8
East York	9.6	11.7	12.5	14.1
York	8.1	8.3	8.7	10.0
Etobicoke	5.7	5.9	6.8	8.3
North York	4.8	5.0	6.0	7.6
Scarborough	4.1	4.6	5.2	6.4

SOURCE: Statistics Canada (1961, 1966, 1971a, 1976a)

The greatest increases in the numbers of elderly in future are expected to be in the newer suburbs of Metro Toronto, that is, Etobicoke, North York, and Scarborough, again owing primarily to the aging of the middle-aged people now living there.

Civic officials ought to realize this fact in planning future services. A great deal of emphasis has been placed on the high percentage of the elderly in the downtown cores of cities, but that emphasis may have to change in future allocations of resources.

Table 8 shows the distribution of persons aged 65–74, 75–84, and 85+ in the six municipalities of Metropolitan Toronto in 1976. Whereas the proportion of the young-old (65–74) is much greater in East York than in the city of

Toronto (9.0 per cent compared with 7.1 per cent), for those aged 75–84 the difference is much less (4 per cent compared with 3.7 per cent). When it comes to the old-old (85+), the city of Toronto has almost the same percentage as East York. This is because more of the old-old have lived in downtown Toronto just that much longer. Furthermore, when migration of the elderly does occur it is usually of the young-old. The old-old of course are the most dependent and in need of support. Consequently it is important to note that the city of Toronto has over five times as many residents aged 85+ as East York and over twice as many as North York, the municipality with the second greatest number of old-old. These statistics show why it is always important to examine both the numbers and the proportions of the various subdivisions of the elderly in ascertaining needs, rather than to assume that there is an equal burden resulting from all those aged 65+.

SOCIOECONOMIC CHARACTERISTICS

This section is based on data on income from periodic household surveys and on information about education, employment, and other characteristics of households collected in the 1976 census.

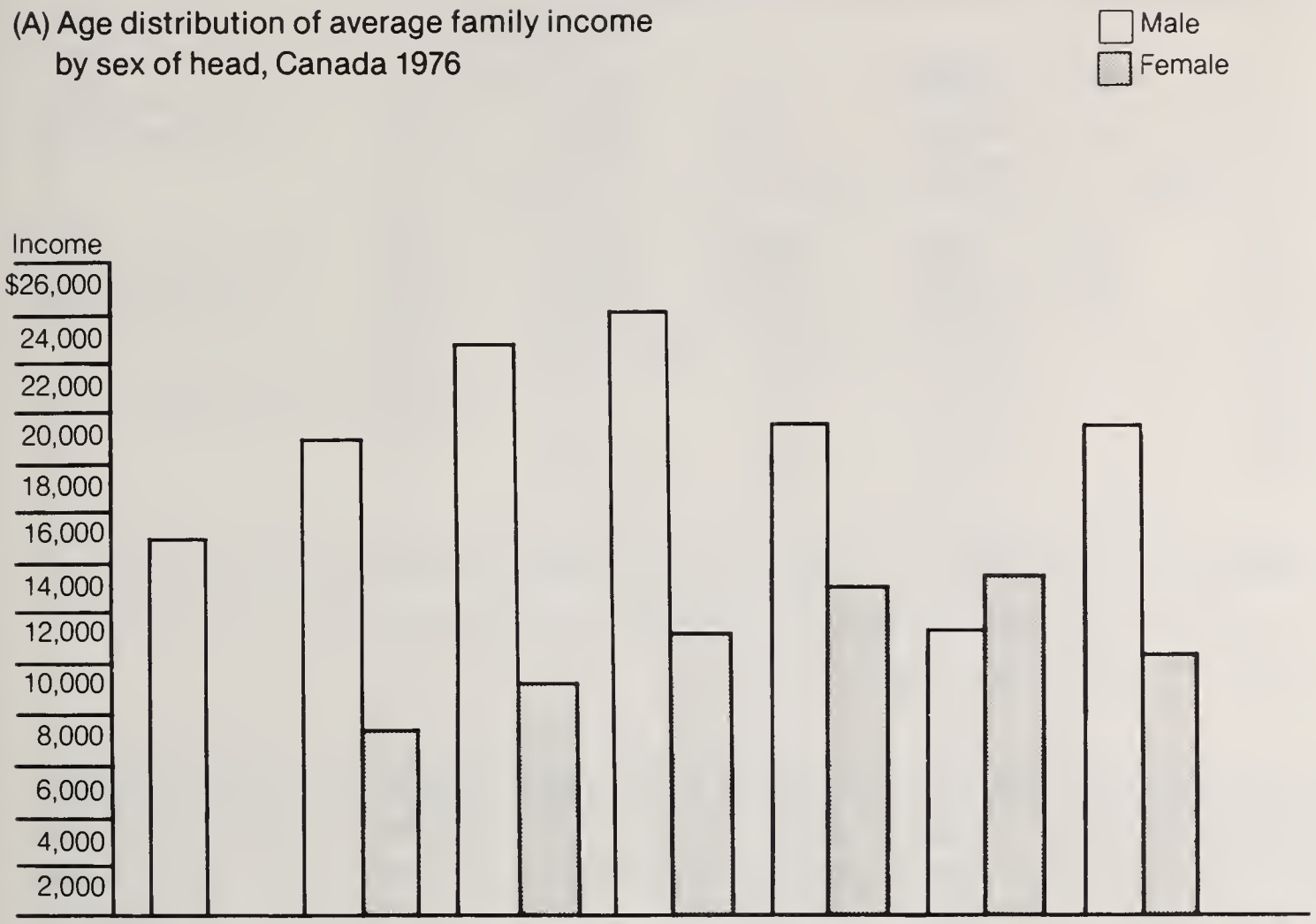
Income

One of the most important factors influencing older people's health and enabling them to stay out of institutions is income (Schwenger, 1977). It is often assumed that elderly Canadians are all poor and that they are the poorest segment of society. Figure 2 and Table 10 show other sectors that are worse off.

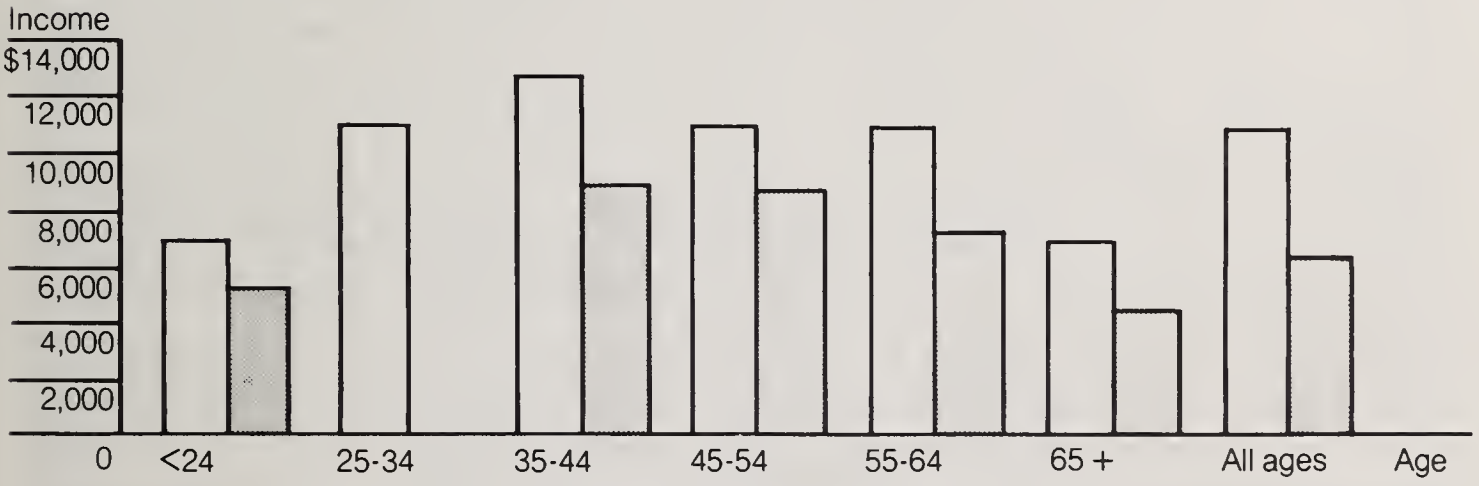
It is true, of course, that some of the elderly still have incomes below the poverty level. However, Figure 2 shows that when the family head is female the average family income was actually highest for family heads 65+ ($13,794) and is almost twice that of female-headed families when the head is 25–34 ($7,563). For unattached individuals the income of those under 24 was only slightly higher than the income of those aged 65+. As for average individual incomes, unmarried men and women under 24 actually have average incomes less than for those aged 65. In the last few years there has been a great improvement in elderly persons' incomes, which now exceed those of some other age categories (Canadian Council on Social Development, 1975). The low incomes for those under 24 can be attributed in part to the fact that many are still in school or at least partially dependent on their parents. Older women generally have far less income than older men (except

Figure 2
Age distribution of income

(A) Age distribution of average family income by sex of head, Canada 1976



(B) Age distribution of income of unattached individuals, Canada 1976



Source: Statistics Canada (1971b, 1976b)

TABLE 10
Percentage distribution of low-income families and unattached individuals, Canada 1976 by age of head

	Families		Unattached individuals	
Age of head	Low-income	Other	Low-income	Other
<24	9.6	5.4	23.2	23.2
25–34	21.9	27.5	7.2	24.8
35–44	19.3	21.6	4.0	8.2
45–54	13.8	18.9	5.9	11.0
55–64	13.2	15.2	12.1	12.2
65–69	6.3	4.8	11.7	7.1
70+	15.9	6.6	35.9	13.5
All ages	100.0	100.0	100.0	100.0

SOURCE: Statistics Canada (1976b)

in the case of family income). Many older women are struck particularly hard financially when their husbands die: note the difference between average 65+ male-headed family income ($11,644) and average 65+ unattached female income ($4,332).

In Table 10 the cutoff point for low income has been set for income levels where families on average spent 62 per cent or more of their incomes on food, shelter, and clothing. Notable is the high percentage of low-income families where the head is aged 25–44 and the more than doubling (from 6.3 per cent to 15.9 per cent) of lower-income families where the family head changes from 65–69 to 70+. As for unattached individuals, a very high percentage of those aged 24 and under had low incomes, while a very steep rise (over three times) in low incomes is seen from 65–69 (11.7 per cent) to 70+ (35.9 per cent). The difference would be even more striking if sex distribution were also included.

Table 11 compares the incomes of the elderly by region and age. Ontario in 1971 had one of the highest average annual incomes in Canada for both the age groups 65–69 and 70+. However, this table reveals the drastic drop in income from the first to the second of these two groups, a difference that would seem even greater if the table went on to distinguish between the ages of 75+ and 85+ and also differentiated on the basis of sex. The large difference between average and medium incomes suggests rather severe

TABLE 11
Average and median income of Canadians 65–69 and 70+ by region, 1971

	Canada	BC	Prairies	Ont.	Que.	Atlantic
65–69						
Average income ($)	3,576	3,540	3,417	4,044	3,317	2,663
Median income ($)	1,974	1,991	1,981	2,381	1,917	1,834
70+						
Average income ($)	2,483	2,807	2,305	2,725	2,192	2,240
Median income ($)	1,799	1,819	1,815	1,828	1,765	1,766

SOURCE: Statistics Canada (1971b)

TABLE 12
Level of education among the elderly (65+) in Ontario, 1976

	Male		Female	
	No.	%	No.	%
< Grade 9	178,160	57.4	229,700	53.6
Grades 9–13	80,900	26.1	121,740	28.4
Post-secondary	20,935	6.7	51,645	12.0
University	30,320	9.8	25,515	6.0
Total	310,315	100.0	428,610	100.0

SOURCE: Statistics Canada (1976a)

income disparity: many senior citizens are very poor, and a fair number are quite well-off, but there are not many in between.

Education

One extremely important influence on attitudes to health and the use of health services is the level of education of the elderly. Table 12 shows the different levels of schooling among elderly Ontarians in 1976. A higher percentage of women than men 65+ have some high school education (28.4 per cent compared to 26.0 per cent) and have had some post-secondary education other than university (12.0 per cent compared to 6.7 per cent). However, in university education, older males hold the edge (9.8 per cent compared to 6.0 per cent). The level of schooling has been rising over the

TABLE 13
Labour force participation rates of the elderly (65+)
by level of schooling and sex in Ontario, 1976 (percentages)

	Men	Women	Total
< Grade 9	17.0	4.6	10.0
Grades 9–13	23.5	7.6	13.9
Post-secondary	25.5	9.7	14.3
University	32.7	13.5	23.9
All elderly	20.8	6.6	12.6

SOURCE: Statistics Canada (1976a)

years (Kalbach and McVey, 1977), leading to a more sophisticated and presumably more demanding group of elderly health consumers.

Employment

The relationships between occupation, retirement, and health, particularly in men, have been well studied. In a youth-worshipping, work-oriented society, it is not surprising that one's sense of worth (or well-being) should be affected by one's present or previous occupation. These questions have been raised in connection with the issue of voluntary as against compulsory retirement. For decades the percentage of elderly men in the labour force in Canada and Ontario has been dropping. For example, between 1961 and 1971, although the number of elderly males (65+) in the labour force in Ontario increased from 231,765 to 274,930, this represented a drop in the male elderly participation rate from 31.6 per cent to 26.4 per cent. On the other hand the women 65+ increased as a percentage of the labour force from 7.6 per cent to 8.5 per cent over the same period (Kubat and Thornton, 1974).

Table 13 shows that 20.8 per cent of males and 6.6 per cent of females aged 65+ were in the labour force in 1976. The percentage of the elderly in the labour force rose significantly with the level of education. The participation rate for university-educated elderly males (32.7 per cent) was almost twice that for those with less than a Grade 9 education (17.0 per cent), and for university-educated females (13.5 per cent) it was about three times that for those with less than a Grade 9 education (4.6 per cent).

Households

Table 14 shows the large number (168,395) and proportion (65.9 per cent) of two-person male-headed households among the elderly and the relatively

TABLE 14
Private households with elderly heads (65+) in Ontario, 1976

Heads 65+	Size of households			Total households
	1 person	2 persons	3+ persons	
Male	36,485	168,395	50,640	255,525
	(14.3)	(65.9)	(19.8)	(100.0)
Female	135,455	34,485	12,290	182,230
	(74.3)	(18.9)	(6.8)	(100.0)
Total heads	171,940	202,880	62,930	437,750
	(39.3)	(46.3)	(14.4)	(100.0)

NOTE: Percentages in parentheses
SOURCE: Statistics Canada (1976a)

small number (36,485) and proportion (14.3 per cent) of single-person male households. At the same time there is a very large number (135,455) and proportion (74.3 per cent) of single-person female households. Old age is not only a woman's world but also a world of women on their own. The differences would have been even greater if we had distinguished further between those aged 75–84 and those aged 85+.

EPIDEMIOLOGICAL CHARACTERISTICS

Mortality

The 20,623 deaths of males aged 65+ constituted 60.3 per cent of all male deaths in 1976. The 19,361 deaths of females aged 65+ represented almost 73.3 per cent of all female deaths during the same period (Table 15). The rate of death obviously climbs precipitously with age until for those 85 years and over it is almost 20 per cent annually for males and over 15 per cent annually for females.

Table 16 outlines the three chief causes of death in 1976 for elderly men and women by age group. Diseases of the circulatory system, cancer (neoplasms), and diseases of the respiratory system were the three primary causes of death for all three subgroups. In men the percentage of deaths due to circulatory diseases rose from 54.3 per cent (65–74) to 64.6 per cent (85+) and in women from 53.1 per cent to 71.4 per cent at the same ages. Respiratory diseases took over from neoplasms as the second leading cause of death for men aged 85+, and in women they almost drew even.

A comparison of death rates for age groups over 65 from 1972–6 is shown in Table 17. It appears that the death rates in all the age groups dropped over

TABLE 15
Death rates by age and sex in Ontario, 1976

Age	Men		Women	
	Number	Rate per 100,000	Number	Rate per 100,000
0–19	1,761	119.3	1,112	79.1
20–64	11,836	512.1	5,944	254.7
65–74	8,793	4,249.9	5,179	2,060.9
75–84	7,978	9,486.3	7,792	5,729.4
85+	3,852	19,855.7	6,390	15,434.8
Total	34,220	414.1	26,417	319.7

SOURCE: *Ontario Vital Statistics 1975–76*

TABLE 16
Chief causes of death among the elderly in Ontario, 1976

	Aged 65–74		Aged 75–84		Aged 85+	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
Males						
Diseases of circulatory system	4,771	2,306.0	4,712	5,602.9	2,490	12,835.0
Neoplasms	2,271	1,097.6	1,565	1,860.9	438	2,257.7
Diseases of the respiratory system	680	328.6	823	978.6	465	2,396.9
Total male deaths	8,793	4,249.9	7,978	9,486.3	3,852	19,855.7
Females						
Diseases of circulatory system	2,752	1,095.1	4,990	3,669.1	4,560	11,014.5
Neoplasms	1,408	560.3	1,360	1,000.0	560	1,352.7
Diseases of the respiratory system	267	106.2	456	335.3	522	1,260.9
Total female deaths	5,179	2,060.9	7,792	5,729.4	6,390	15,434.8

SOURCE: *Ontario Vital Statistics 1975–76*

TABLE 17
Death rates per 1,000 population by age groups 65+, Ontario 1972–6

	1972		1973		1974		1975		1976	
Age	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
65–69	36.5	17.4	35.7	17.0	35.8	17.2	34.6	17.7	34.6	16.0
70–74	56.2	29.0	54.5	27.9	55.2	28.1	53.1	28.0	53.6	26.4
75–79	81.9	48.2	81.9	47.8	81.4	47.0	80.2	46.3	79.5	44.3
80–84	127.5	79.9	128.9	82.0	127.6	81.4	127.8	77.2	123.3	77.5
85+	228.3	159.0	240.3	158.7	237.2	158.0	243.4	152.9	199.0	154.4

SOURCE: *Ontario Vital Statistics 1972, 1973, 1974, 1975–76*

TABLE 18
Accidental deaths by age and sex in Ontario, 1976

	Men		Women	
Age	Number	Rate per 100,000	Number	Rate per 100,000
0–19	569	38.5	230	16.4
20–64	1,422	61.5	419	18.0
65–74	194	93.8	117	46.6
75–84	134	159.3	168	123.5
85+	105	541.2	173	417.9
Total	2,424	59.2	1,107	26.6

SOURCE: *Ontario Vital Statistics 1975–76*

TABLE 19
Accidental deaths by cause and sex among the elderly in Ontario, 1976

	Aged 65–74		Aged 75–84		Aged 85+	
Cause	Men	Women	Men	Women	Men	Women
Falls	56	35	66	105	81	147
Motor vehicles	63	30	36	31	10	4
Fires	18	16	7	7	1	5
Other causes	57	36	25	25	13	17
Total	194	117	134	168	105	173

SOURCE: *Ontario Vital Statistics 1975–76*

these four years in both men and women. The rates had become stalled in the late sixties especially in men, and the new reduction is probably part of the overall drop in mortality due to cardiovascular heart disease, which has been noted in many countries (Myers, 1978).

Tables 18 and 19 show the deaths due to accidents in Ontario in 1976. As is well known, the rate of accidental deaths climbs rapidly with age. Accidental death rates are highest at age 85+ in men (541.2 per 100,000), far surpassing the death rates at earlier ages, which are notorious for their higher incidence of motor vehicle fatalities. Although the male rate of death is consistently higher than the female rate, the difference is much smaller in older

TABLE 20
Suicide rates per 100,000 population by age, sex, and marital status, Ontario 1976

	Men			Women		
	Single	Married	Widowed & divorced	Single	Married	Widowed & divorced
15–24	19.9	11.1	83.3	6.6	3.8	0.0
25–44	50.1	17.4	44.7	19.5	8.9	33.5
45–64	49.4	24.8	70.4	12.8	14.1	23.5
65–74	35.7	19.6	41.3	9.2	8.7	15.4
75+	2.2	20.2	33.1	7.4	8.9	9.0
Total 15+	27.6	19.9	69.9	8.9	10.0	17.2

SOURCE: *Ontario Vital Statistics 1975–76*

age. The number and share of accidental deaths due to falls increase greatly with age until, at the age of 85 and over, they constitute over three-quarters of all accidental deaths among men and over four-fifths among women.

Suicide has long been recognized as having a very high rate among the elderly. It is well known that elderly persons who are widowed or divorced are at special risk, but it is interesting to note in Table 20 that the highest rate among widowed and divorced males is in the young (83.3 per 100,000 from 15 to 24) and the middle-aged (70.4 per 100,000 from age 45 to 64). The highest rate of female suicides is in persons aged 25–44 who are widowed or divorced (33.5 per 100,000). Single men are also at special risk, including those who are young-old (35.7 per 100,000 from age 65 to 74), but there is an abrupt drop in the rate after the age of 75.

Morbidity

Table 21 shows hospital morbidity in 1971 for all general and applied special hospitals. The age group 65+ accounted for 5,447,469 days, a rate of 8.5 days a person (compared to 8.3 for all Canada). There were a total of 15,064,990 hospital days used in Ontario by all ages, a rate of 2.0 days a person compared to 1.9 days for all Canada (see Romeder and McWhinnie, 1974).

Many more hospital days were consumed by women than by men in the three categories of heart diseases, cerebrovascular diseases, and accidents. Accidents composed a much greater proportion of total patient days for women (14.28 per cent) than for men (6.09 per cent), but men had a higher

TABLE 21
Hospital morbidity: distribution of patient days by major cause of illness among persons aged 65+ in Ontario, 1971

Cause	Men		Women	
	Number	%	Number	%
Heart diseases	421,620	18.48	588,084	18.57
Cerebrovascular diseases	302,554	13.26	461,517	14.57
Accidents	138,918	6.09	452,170	14.28
Hypertension and arteriosclerosis	114,456	5.02	174,774	5.52
Diseases of the musculoskeletal system	65,771	2.88	182,821	5.77
Respiratory diseases	147,984	6.49	86,543	2.73
Diseases of the nervous system	93,707	4.11	136,864	4.32
Cancer of the digestive organs	78,740	3.45	92,324	2.92
Diseases of prostate	170,153	7.46	–	–
Diabetes	55,537	2.43	107,675	3.40
Mental disorders	56,665	2.48	76,185	2.40
Diseases of female genitalia	–	–	119,314	3.77
Diseases of the blood (including cancer)	36,185	1.59	53,314	1.68
Cholelithiasis	26,400	1.16	52,835	1.67
Lung cancer	56,676	2.48	11,392	0.36
Hernia	39,275	1.72	26,960	0.85
Cataracts	23,074	1.01	40,273	1.27
Ulcers of stomach and duodenum	37,257	1.63	25,892	0.82
Diseases of the skin (including cancer)	21,707	0.95	32,311	1.02
Total	2,280,941	100.00	3,166,528	100.00

NOTE: Including general and allied special hospitals. Causes are adapted from *International Classification of Diseases, 8th Revision*. This classification has been designed by Romeder and McWhinnie to reflect major underlying causes of diseases as well as the body systems affected.
SOURCE: Romeder and McWhinnie (1974)

mortality due to accidents (see Table 18). There was a greater proportion of hospital morbidity among men than among women due to respiratory diseases (6.49 per cent) and lung cancer (2.48 per cent), but morbidity from diseases of the musculoskeletal system (5.77 per cent), was much higher among women.

Table 22 shows that slightly more hospital days were consumed by those 75+ than by those 65–74 in spite of the fact that the former are far less numerous in the population (280,000 compared with 458,200). Higher proportions of days in the 65–74 group were caused by neoplasms (14.69 per

TABLE 22
Hospital morbidity: distribution of patient days by major cause of illness among the elderly by age group in Ontario, 1976

Diagnoses	Aged 65–74		Aged 75+	
	Days	%	Days	%
Infective and parasitic diseases	16,120	0.87	18,789	0.98
Neoplasms	272,507	14.69	223,698	11.69
Endocrine, nutritional and metabolic diseases	65,502	3.53	51,845	2.71
Diseases of the blood and blood forming organs	13,778	0.74	22,285	1.17
Mental disorders	79,451	4.28	43,635	2.28
Diseases of the nervous system and sense organs	81,063	4.37	74,304	3.88
Diseases of the circulatory system	526,651	28.40	645,856	33.76
Diseases of the respiratory system	130,543	7.04	138,986	7.27
Diseases of the digestive system	202,797	10.93	160,250	8.38
Diseases of the genito-urinary system	119,265	6.43	97,938	5.12
Complications of pregnancy, childbirth, and puerperium	55	0.00	129	0.01
Diseases of the skin and subcutaneous tissue	24,230	1.31	22,264	1.16
Diseases of the musculoskeletal system and connective tissue	115,792	6.24	82,562	4.32
Congenital anomalies	3,635	0.20	1,998	0.10
Certain causes of perinatal morbidity and mortality	12	0.00	16	0.00
Symptoms and ill-defiined conditions	40,615	2.19	41,160	2.15
Accidents, poisonings, and violence – nature of injury	152,341	8.21	273,809	14.31
Special conditions and examinations without sickness	10,268	0.55	13,286	0.69
Total	1,854,625	100.00	1,912,810	100.00

NOTE: Includes active beds in general and allied special hospitals, excluding chronic units.
Diagnoses according to *International Classification of Diseases, 8th Revision*
SOURCE: Data Development and Evaluation Branch, Ontario Ministry of Health

cent), mental disorders (4.28 per cent), diseases of the digestive system (10.93 per cent), and diseases of the musculoskeletal system (6.24 per cent), while for those aged 75+ higher proportions of days occurred for diseases of the circulatory system (33.76 per cent) and accidents, poisonings, and vio-

lence (14.31 per cent). The latter figure is in accordance with the very high rates of accidental deaths in the middle-old and particularly the old-old (Table 18) for whom the increasing proportion of deaths is due to accidental falls (Table 19).

DISCUSSION

The 738,920 Ontarians aged 65 and over in our target year of 1976 represent well over one-third of all Canadians of that age. They are not only a growing number of actual and potential consumers of health care but also a significant number of possible voters who have a relatively high voting rate (especially the young-old). They are increasingly concerned about the availability, adequacy, and cost of their own health services. This concern has not gone unnoticed by the provincial government, which has set up the Ontario Advisory Council on Senior Citizens, whose quarterly newspaper is sent to every pensioner in the province.

Ontario might be called a relatively young-old province in a young-old country. The country as a whole only recently (in 1971) passed the dividing point between young and old (defined by the United Nations as 8 per cent 65+) but has been aging more rapidly than Ontario in the last couple of decades. Ontario does not have a heavier burden of elderly people than other provinces and countries. The dependency ratio in Ontario has been falling very rapidly since 1966 – to about 50 per cent in 1976 – and is still declining because of the striking drop in fertility that has led to fewer babies and in turn fewer children and young adults. A redistribution of resources, including health care, from the young to the old, would appear to be fair and logical.

The substantial variations within Ontario from county to county should be taken into consideration in the allocation of provincial and local resources, including the delivery of health services to the elderly. Local officials should be made aware of the demographic peculiarities of their districts so that they may assess local needs and ensure adequate participation of the elderly in health care decisions.

There are differences between the young-old and the old-old and between elderly men and elderly women in the need for health and social services. Up to about age 74 older Canadians tend to live relatively problem-free lives. Many of them are still married, have friends their own age, are in relatively good health, and are managing reasonably well economically with the assistance of two or more pensions. After the age of 75, and particularly after 85, the problems of ill health, disability, widowhood, loneliness, poverty, and so

on tend to increase. With these problems go the need for many more social and health services including institutional care. The different needs of older men and women also affect the health services to be provided and must be taken into consideration in planning for the elderly.

The division by sex into young-old (65–74), middle-old (75–84), and old-old (85+) used in this study and by the Task Force on Health Care for the Aged (Ontario Council of Health 1978) ought to become a regular procedure in social surveys, studies, and research on the aged in this province. Much more comprehensive and up-to-date data based on these three categories of elderly Ontarians, including demographic and socioeconomic characteristics and mortality and morbidity statistics, together with data on existing social and health services, should be maintained centrally and made available regularly and in easily usable form to local community agencies, such as district health councils, local health departments, and hospitals in addition to social planning councils and senior citizens' councils. In this way a good deal of time-consuming, reduplicated local effort could be avoided. Those statistics would help greatly in the analysis of particular needs and in the allocation of resources both provincially and locally.

Attention must be paid to the special difficulties of the elderly in rural areas, particularly in rural 'retirement communities,' difficulties such as the shortage of public transportation and the lack of health and social services. However, we must also be aware of the equally pressing problems of the increasingly urbanized and metropolitanized elderly Ontarians – problems such as a higher cost of living, expensive shelter, ignorance of available services, and a lack of co-ordination between those services. In large cities like Toronto we must plan for a declining proportion of elderly people in downtown districts; the vast increases will appear first in the suburbs and later in contiguous rural-urban ('rurban') districts.

A person's income determines the quality and quantity of food, clothing, shelter, and recreation that he or she can purchase and so has an important indirect bearing on health. Income is recognized by the aged themselves as being of the very greatest importance in retirement (see for example National Council on the Aging, 1975). The costs of dentures, eyeglasses, and hearing aids have been addressed by the Task Force on Health Care of the Aged (Ontario Council of Health, 1978). More affluent Ontarians tend to have better health and receive more adequate health services. They also tend to be happier and to be more satisfied with their lives (Schwenger, 1977).

The income of elderly Ontarians and Canadians has been rising for several decades. Compared with other provinces in 1971, Ontario had one of the highest average median incomes among the elderly. In addition to increased

income, the elderly get many monetary benefits. Also important is the high proportion of mortgage-free home ownership. It must be kept in mind that, although most of the elderly are perhaps still not well off, they are no longer the poorest segment of Canadian society. Other groups do not receive the same free or cheaper community services and extra benefits.

However, in almost all cases older Canadian women are worse off than men. Many older women are struck a hard financial blow when their husbands die, particularly if they are in rental accommodation. The young-old tend to be much better off than the middle-old and old-old, who are increasingly lonely, poor, and ailing elderly women. Recommendations have recently been made that in future we should reallocate some of the financial, health, and social support systems from the young-old to the old-old (Bosanquet, 1978). Very old people are not in a strong bargaining position and do not represent a very powerful lobby. Younger people may have to speak on their behalf.

Education levels have also been constantly rising and will continue to do so in the future. A more urbanized, richer, better educated, and more sophisticated elderly population will no longer tolerate as willingly as their forebears either poor health or inadequate health care – and the cost implications are obvious.

As for employment (which will be discussed again in Chapter 5), for decades the percentage of elderly men in the Ontario labour force has been dropping. On the other hand women appear to be at least holding their own. Senator David Croll's new committee is examining the advisability of voluntary rather than compulsory retirement. Much of the discussion, however, about wasted talents among the elderly and their sense of uselessness results from concern for pension solvency in the future. Opposition to compulsory retirement may understandably come from successful businessmen and professionals and not necessarily from the mass of elderly persons who have been waiting desperately to escape from their boring, laborious, hazardous or frustrating jobs but are held to them by the effect of inflation on their dwindling savings. The relationship of these questions to the mental health of the elderly is clear.

As for living arrangements, approximately two-thirds of Ontario households headed by a man aged 65+ consist of two persons. On the other hand three-quarters of elderly households headed by a woman consist of only one person. This again spells more and more elderly women who are likely to need community services. There will probably be an upsurge in the development of retirement communities for the young-old and geriatric campuses for the old-old in this province. There is a continuing need for a variety and

choice of facilities that enable the generations to keep relating to one another. To develop a new sense of social 'interdependence' among the aged, a continuum of accommodation is needed: from self-sufficient housing to dependent residential care, including much more sheltered housing such as hostels, hotels, congregate housing, and foster homes. Consideration should also be given to developing a Canadian equivalent of the British 'warden,' who is specially trained to supervise the frail elderly in sheltered housing. Carp's (1977) research has often been cited as evidence that suitable shelter raises survival rates (see also chapter 5).

Most people now expect to reach old age and do so: two-thirds of all men and three-quarters of all women in Ontario live at least to the age of 65 (1976). After that, of course, death rates climb precipitously. Respiratory disease takes a higher and higher toll from young- to middle- to old-old age. Elderly death rates appear to have dropped from 1972 to 1976, probably through a general reduction in deaths due to cardiovascular heart disease.

Accidental deaths and suicides both have very high rates in the elderly and must be given a high priority in any community health preventive program. As for morbidity, heart disease, cerebrovascular diseases, and accidents were responsible for well over two-fifths of the patient days in general hospitals in 1971. In that year older Ontarians consumed 8.5 days of hospital care a person, or more than four times the rate in the general population. In a more positive vein, although the elderly spend a little over one week in general hospital each year, they are actually out of hospital for an average of close to fifty-one weeks, which confirms that the majority of the elderly are quite healthy. Although accidents appear to be a leading cause of hospital morbidity in elderly women, they appear to kill more elderly men. This is frequently cited as evidence that elderly women are basically tougher than men. Excessive proportions of respiratory morbidity, including lung cancer, were also noted in elderly men.

Finally, the proportion of hospital diagnoses of mental illness dropped after age 75 in spite of the fact that the reported incidence of mental illness has been shown to rise markedly with age. The pronounced rise after the age of 75 in the proportion of hospital morbidity due to violent deaths is in line with the mortality rates due to accidents.

It would be enormously helpful to have the breakdown by cause of morbidity of the services provided by Ontario physicians; unfortunatly this is not possible because the OHIP statistics reveal much more about what physicians are paid than about the services they perform.

2
Health care to elderly Ontarians: institutional services

This chapter and the next describe the main components of the health care system and the elements of the social services that affect the health of the aged of Ontario. The services are divided into institutional and non-institutional. We stress the former because the cost and utilization of institutional health care is a principal focus of this study. Nevertheless, since non-institutional services are closely related to institutional services and also have financial implications, a brief description of certain community and ambulatory services is necessary. We shall often refer to program status in 1976 which, in many cases, is the most recent year for which statistics are available. Our analysis of health service expenditures and utilization by the elderly is also based on that year. Where available and particularly instructive, statistics for 1977 or 1978 have been used.

Much attention has been drawn in Ontario and throughout Canada to the confusing array of types of institutional care (OMH, 1975c; Overton et al., 1977; Working Party, 1973), and schemes have emerged for categorizing institutional health resources. The most widely used is the one developed by the Working Party on Patient Care Clarification (1973) and adopted by the province of Ontario (OMH, 1975c). Table 23 shows the five basic types.

With two modifications, this classification is the organizing principle for our examination of institutional services to the elderly. Since chronic and rehabilitation programs are often conducted in the same building and separate financial accounts are not kept for each program, we have grouped Types 3 and 4 together under the heading long-term care. The second modification is the division of Type 5 (acute care) into active and psychiatric treatment because of their different nature and costs. These two changes result in five basic classes of care: active treatment (Type 5), long-term (Types 3 and 4), extended (Type 2), residential (Type 1), and psychiatric (Type 5).

TABLE 23
Types of institutional care in Ontario

Types	Type of Facility	Commonly referred to as:
Type 1: Residential	Homes for the aged Charitable homes for the aged Nursing homes Foster homes	Domiciliary care Ambulant care Normal care Residential care Intermediate care
Type 2: Extended	Homes for the aged Nursing homes Homes for special care (HSC)	Extended health care Extended care HSC Programs
Type 3: Chronic	Chronic hospitals Chronic units in general hospitals	Chronic care Chronic hospital care
Type 4: Special rehabilitation	Regional rehabilitation centres Rehabilitation units in general hospitals	Rehabilitation Special rehabilitation care
Type 5: Acute	Public hospitals Psychiatric units of general hospitals Provincial psychiatric hospitals	Acute care Active treatment Psychiatric care

SOURCE: Adapted from OMH, *Patient Care Classification by Types of Care*, (Toronto, 1975)

ACTIVE-TREATMENT CARE (ATC)

Active treatment care (ATC) is loosely defined as the care provided in the public general hospitals of Ontario. However, public general hospitals also have beds for long-term (LTC) and psychiatric care (PC) as well as education, research, and out-patient programs. Table 24 reveals the panorama of general hospital services in Ontario. Excluding its two children's hospitals, Ontario had 202 general hospitals in 1976, all of which offered active treatment. Long-term chronic and rehabilitation units as well as psychiatric units constituted a significant and widely distributed portion of the activities of general hospitals. These special units, numbering 175, accounted for 14.5 per cent of the entire rated bed capacity and 15.6 per cent of all care days provided in Ontario general hospitals in 1976.

All services in general hospitals in Ontario have the same funding and administrative arrangements. Operating expenses are paid from monies contributed by the federal and provincial governments from their general revenues. The provincial general revenues include premiums paid by Ontario

TABLE 24
Program specifics by level of care, public general hospitals, Ontario 1976

Level of care	Number of facilities	Number of units	Rated beds	%	Total days provided	%
Active treatment[a]	202	–	38,415	85.5	10,345,555	84.4
Long-term units	–	122	4,742	10.5	1,363,032	11.1
Psychiatric units	–	53	1,798	4.0	556,406	4.5
Total	202	175	44,955	100.0	12,264,993	100.0

a Includes ten Red Cross Outposts; excludes the Toronto Hospital for Sick Children (787 Beds, 201,279 Days), Ottawa Children's Hospital of Eastern Ontario (301 Beds, 74,322 Days), and St Catharines Shaver Hospital Active Unit (closed 19 April 1976; thirty-five Beds, 4096 Days).

SOURCE: Derived from OMH (1976a)

residents to the Ontario Health Insurance Plan (OHIP). Persons 65 and over are not required to pay premiums. Although hospitals receive most of their operating funds from public sources, they are usually governed by local trustees, who establish policies and programs for each hospital. Thus, the day-to-day management of general hospitals is relatively autonomous although it is almost entirely dependent on government subsidization of operating expenses.

Active treatment care, which is the predominant program in general hospitals, is intended to provide a wide range of highly specialized manpower and equipment for patients with acute, short-term illnesses. This is indicated by the leading primary diagnoses of patients in ATC. Childbirth, and diseases of the digestive, genito-urinary, circulatory, and respiratory systems were responsible for over one-half of all cases discharged from active beds in 1976 (OMH, 1976a). Table 25 shows that the elderly constitute 18.7 per cent of ATC cases and accounted for one-third of all care days. Furthermore, the average stay for the aged is almost twice as long as for all ages and more than twice as long as for the non-aged. These statistics are consistent with an epidemiological trend discussed earlier: the old have longer-lasting acute ailments than the young.

Patients in active-treatment care are the most variable assortment to be found in any institutional care facility in the province. They consist of persons requiring differing degrees of diagnosis and medical treatment, surgery, or intensive care, as well as paediatric and obstetrical cases and newborns. Because of the great variety of patients fitting this category, at least two

TABLE 25
Age differences in cases, days, and average lengths of stay for patients separated from active care, Ontario 1976

	All ages	Aged 0–64		Aged 65+	
		No.	%	No.	%
Cases	1,277,859	1,039,470	81.3	238,389	18.7
Separated days	10,076,668	6,660,596	66.1	3,416,072	33.9
Average length of stay	7.9	6.4	–	14.3	–

NOTE: Excludes Toronto Hospital for Sick Children, Ottawa Children's Hospital of Eastern Ontario, and St Catharines Shaver Active Unit.
SOURCE: Derived from data supplied by OMH, Data Development and Evaluation Branch

elements are worthy of special attention: maternity-paediatric care (M-PC) and short-term care (STC). M-PC is provided exclusively to obstetrical cases and children. STC is given to patients in the medical, intensive, and other short-term units of general hospitals. In addition, some STC patients receive surgical care. In 1976, 12.1 per cent of patients separated from ATC after surgery were elderly. This proportion, unlike that for all ATC cases (18.7 per cent) or separated days (33.9 per cent) is more in line with the proportion of the aged in Ontario (8.9 per cent).

Unfortunately the data on active treatment separations do not separate short-term care from maternity-paediatric care. However, data furnished by the Ontario Ministry of Health (OMH) show 1,644,083 M-PC days (excluding newborns) in 1976. Since, 66.1 per cent (see Table 25) of the 10,345,555 active care days shown in Table 24 were required by persons under 65, we estimate that 6,838,328 ATC days were provided to the non-aged in 1976. Presumably all days in M-PC are delivered to non-elderly patients. Therefore, age differences in the use of short-term care can be calculated by subtracting the 1,644,083 M-PC days from the remaining ATC days used by persons under 65. These estimates are shown in Table 26. Removing M-PC days from total active treatment days reveals refined utilization differences between the ages. Although none of the maternity-paediatric days are used by the elderly, more than two-fifths of short-term care days are provided to aged patients. This is a marked difference from the 33.9 per cent found in the more aggregated ATC data. It is clear that persons 65 years and above require far more active hospital care than their proportion in the population.

TABLE 26
Age differences in the utilization of short term and maternity-paediatric care, Ontario 1976

	All ages	Aged 0–64		Aged 65+	
		No.	%	No.	%
Short term days	8,701,472	5,194,245	59.7	3,507,227	40.3
Maternity-paediatric days	1,644,083	1,644,083	100.0	0	0.0
Total	10,345,555	6,838,328	66.1	3,507,227	33.9

SOURCE: Derived from data supplied by the OMH, Data Development and Evaluation Branch

LONG-TERM CARE (LTC)

Long term care comprises chronic and rehabilitative services. Chronic care is provided to a person with a chronic illness or functional disability whose condition is no longer acute but whose vital processes may still be unstable. Such a person may have limited potential for rehabilitation but usually requires a variety of such services as physiotherapy and occupational therapy; medical management, and skilled nursing, as well as counselling. Rehabilitative care, on the other hand, is provided to patients with stable medical conditions. These persons can be of two kinds: 1) general rehabilitation cases whose disabilities are expected to disappear through the normal healing processes over a short convalescent period, and 2) special rehabilitation patients who need a more specialized and intensive program to regain or improve their functional ability. Lengths of stay in chronic and rehabilitation categories are usually well over a month: hence the designation long-term.

Table 27 shows program specifics analysed by the facility types in which long-term care is delivered. It can be seen that LTC is a much smaller sector than active treatment care: the former provides about one-third as many days as the latter. More LTC days and beds are found in the 109 chronic units of general hospitals than in any other type of hospital. It is interesting to note that public chronic and rehabilitation hospitals both provide a mixture of chronic and rehabilitation care. Indeed, rehabilitation hospitals, despite their name, provided more chronic than rehabilitation days in 1976.

With the exception of private chronic hospitals, all LTC facilities are funded and administered in the same manner as general hospitals. Private institutions are reimbursed a fixed flat rate per patient day, a rate negotiated with the Ministry of Health. According to ministry officials, these hospitals are vestiges of an era when the Province had not yet assumed much responsi-

TABLE 27
Long-term care programs by facility type, Ontario 1976

Facility type	Number of facilities	Units in general hospital	Rated beds	%	Chronic days	Rehabilitation days	Days provided	%
Public chronic hospitals	19	–	3,729[a]	35.1	1,191,790	63,120[a]	1,254,910	37.5
Private chronic hospitals	15	–	470	4.4	169,830	–	169,830	5.1
Chronic units	–	109	4,326	40.7	1,263,338	–	1,263,338	37.6
Rehabilitation hospitals	9	–	1,691	15.9	289,834	271,986	561,820	16.8
Rehabilitation units	–	13	416	3.9	–	99,694	99,694	3.0
Total	43	122	10,632	100.0	2,914,792	434,800	3,349,592	100.0

a Includes St Catharines Shaver Hospital Active Unit (closed 19 April 1976; 35 beds, 4096 days).
SOURCE: Derived from OMH (1976a)

TABLE 28
Age differences in cases, days, and average lengths of stay for patients separated from long-term care, Ontario 1976

Facility type	All ages	Aged 0–64 No.	Aged 0–64 %	Aged 65+ No.	Aged 65+ %
Public chronic hospitals[a]					
Cases	5,493	1,713	31.2	3,780	68.8
Separated days	1,195,577	335,167	28.0	860,410	72.0
Average length of stay	217.7	195.7		227.6	
Private chronic hospitals					
Cases	397	65	16.4	332	83.6
Separated days	169,612	32,254	19.0	137,358	81.0
Average length of stay	427.2	496.2		413.7	
Chronic units					
Cases	11,303	2,390	21.1	8,913	78.9
Separated days	1,419,538	355,322	25.0	1,064,216	75.0
Average length of stay	125.6	148.7		119.4	
Rehabilitation hospitals					
Cases	8,355	3,971	47.5	4,384	52.5
Separated days	551,324	266,592	41.1	324,732	58.9
Average length of stay	66.0	57.1		74.0	
Rehabilitation units					
Cases	1,936	1,264	65.3	672	34.7
Separated days	87,338	53,534	61.3	33,804	38.7
Average length of stay	45.1	42.4		50.3	
Total					
Cases	27,484	9,403	34.2	18,081	65.8
Separated days	3,423,389	1,002,869	29.3	2,420,520	70.7
Average length of stay	124.6	106.7		133.8	

a Includes St Catharines Shaver Hospital Active Unit (closed 19 April 1976).
SOURCE: Derived from data supplied by OMH, Data Development and Evaluation Branch

bility for chronic care. Their numbers are not increasing and they do not constitute a significant portion of LTC services.

Turning from hospital data to patient statistics, Table 28 displays age differences in days, cases and lengths-of-stay in 1976. Two phenomena stand out in this table: first, the large proportion of elderly cases and days and second, the lengthy duration of care. With respect to relative utilization rates, the elderly use large shares of LTC services although the proportion appears to be less in rehabilitation care. This trend is even more evident in

TABLE 29
Age difference in cases, days, and average lengths of stay
for patients separated from chronic and rehabilitation beds, Ontario 1976

	All ages	Aged 0–64		Aged 65+	
		No.	%	No.	%
Chronic[a]					
Cases	17,335	3,993	23.0	13,342	77.0
Separated days	3,007,045	792,212	26.3	2,214,833	73.7
Average length of stay	173.5	198.4	–	166.0	–
Rehabilitation[a]					
Cases	10,149	5,410	53.3	4,739	46.7
Separated days	416,344	210,657	50.6	205,687	49.4
Average length of stay	41.0	38.9	–	43.4	–
Total					
Cases	27,484	9,403	34.2	18,081	65.8
Separated days	3,423,389	1,002,869	29.3	2,420,520	70.7
Average length of stay	124.6	106.7	–	133.8	–

a Includes chronic beds in both chronic and rehabilitation facilities.
b Includes rehabilitation beds in both rehabilitation and chronic facilities.
SOURCE: Derived from data supplied by OMH, Data Development and Evaluation Branch

Table 29, which shows age differences by chronic versus rehabilitation levels of care. While the aged make up three-quarters of the chronic cases, they constitute less than one-half of rehabilitation patients. Table 29 also makes clear the difference in average length of treatment between these two levels of LTC. Rehabilitation episodes for both young and old are much shorter than chronic stays.

EXTENDED CARE

Extended care is furnished to patients with relatively stable chronic conditions or functional disabilities. Such persons need little diagnosis or treatment, but they are dependent on continuing skilled nursing and counselling. Extended care usually lasts some months or years. Data on programs and patients are presented in Table 30, which shows that extended care is provided by nursing homes (NH) and homes for the aged (HFA). Together these homes number 561 and contain almost as many beds as the active treatment sector. (See Table 24.)

TABLE 30
Extended care program and age specifics, by type of institution, Ontario 1976

Institution	Number of institutions	Beds[a]	Days provided[a]	% Days	% 65+[a]
Nursing homes					
Regular	–	19,637	7,187,142	54.1	91.1
Homes for special care	–	5,240	1,917,840	14.4	51.9
Approved chronic	–	311	113,826	0.9	91.1
Subtotal	381	25,188	9,218,808	69.4	83.0
Homes for aged	180	12,116	4,065,437	30.6	94.3
Total	561	37,304	13,284,245	100.0	86.4

a Estimated (see Gross, 1978, chap. 4, section 5.)
SOURCE: Nursing home data provided by OMH; Data on homes for aged from Senior Citizens Branch, Ontario Ministry of Community and Social Services

More extended care patients are accommodated in nursing homes than in homes for the aged (see Table 30). Extended care patients fall into one of three categories: regular, homes for special care (HSC), or approved chronic. Most patients in nursing homes are regular extended care patients. According to the Ontario Nursing Homes Act, they must require a minimum of 1½ hours of skilled nursing a day and must fit the description of extended care recipients given above. Some nursing homes are also licensed as homes for special care to provide special services to patients transferred from provincial psychiatric institutions and mental retardation facilities.

The third category of nursing homes is the so-called approved chronic. Some chronic cases, though technically long-term care patients, have been placed in a few approved chronic nursing homes. Because the cost of their care is reimbursed at the same rate as extended services, we include approved chronic cases in this examination of extended care. Approved chronic patients are few and decreasing in number. According to OMH officials, the beds for such patients in nursing homes are slowly being phased out in favour of placements to general hospitals. In 1976 there were 311 such patients, and by 1 April 1978 the number had dropped to 189.

Ontario's 180 homes for the aged are responsible for a significant minority of extended beds and care days. In 1976, slightly over 30 per cent of the days provided in extended care were in HFAs. Unfortunately, the separation data on NH and HFA patients necessary for calculating average length of

stay are not available. The age distributions of days provided in these institutions have been estimated in Appendix A on the basis of monthly and year-end census counts. Since no age breakdowns were obtained for the approved chronic group in nursing homes, these have been distributed in the same manner as regular extended care. The final column of Table 30 shows the predominance of aged persons in the extended care program. Patients in homes for special care are not nearly as old as the ones in other EC categories; therefore they depress somewhat the total nursing home proportion. It is plain, however, that homes for the aged have a larger representation of persons over 65 than do nursing homes, even when the cases in homes for special care are excluded. In part, that difference can be explained by policies on admissions to the extended care level of homes for the aged. Patients are ordinarily admitted to extended beds in homes for the aged from among the aged residential care recipients who are already in the homes.[1] This is not the case in nursing homes, to which EC patients are admitted direct.

The latter point introduces a number of differences between NHs and HFAs. Though both provide the same extended care, NHs are the responsibility of the Ministry of Health, which inspects them to ensure compliance with the safety and care requirements of the Nursing Homes Act. HFAs, on the other hand, are in the charge of the Ministry of Community and Social Services, and are not subject to such inspection since local management has discretionary authority in those matters.

Another fundamental difference between NHs and HFAs is that the former are commercial, profit-making businesses where the latter are non-profit institutions established by municipalities and charitable organizations. As such, HFAs have always had a welfare function of providing care to persons who might not otherwise afford it. Nursing homes, on the other hand, depend on their operating revenue to cover the cost of their services. Under Ontario's Extended Care Insurance Program, begun in 1972, nursing homes are reimbursed at a fixed rate per patient day. This amount is shared by the province and the persons receiving care. For most of 1976, nursing home operators were granted $21 a day, of which $7.40 was the responsibility of the patient. Homes for the aged receive both capital and operating funds from the province while the municipalities and charitable organizations managing those institutions also contribute to operating costs. Residents are assessed a portion of the expenses of their care. Residents who are unable to meet these payments, as determined by a means test, are required to relin-

1 The minimum age for admission to an HFA is 60 years.

quish their assets and obtain assistance through joint provincial-municipal welfare provisions.

It is clear from the preceding that, although the delivery of extended care is common to nursing homes and homes for the aged, the management, funding, standards, and inspection are different. In large measure those differences have a historical explanation. Homes for the aged were established to meet welfare objectives in caring for frail elderly persons with little income and resources. As those persons aged, the homes were compelled to provide nursing and other professional services, which were more commonly delivered in nursing homes. Table 30 shows that by 1976 three-tenths of all extended care days were provided in homes for the aged. The differences in jurisdiction, policy, funding, and control in these two kinds of institution are a serious challenge to the present efforts at co-ordinating extended care services in Ontario.

RESIDENTIAL CARE (RC)

Residential care provides assistance to elderly persons who are living at home and who, because of physical or mental frailty, need help with washing, dressing, and cooking. Residential care usually lasts several years. Table 31 presents data on residential care services. It can be seen that residential care is provided in the very same kind of institutions as extended care. Homes for the aged are responsible for most RC days; only 12.2 per cent were generated in nursing homes in 1976. NH residents are of two kinds: regular intermediate and HSC intermediate. The former are private, paying patients who do not qualify for extended insurance benefits because they do not meet the minimum requirement of one and a half hours of nursing care a day. Residents of homes for special care, like HSC extended patients, are transferred to NHs from psychiatric and mental retardation facilities. Though in need of help with washing, dressing, and cooking, they too are excluded from the extended care category because they need less than 1½ hours of nursing time.

Since the age data necessary for analysing care days to either nursing home group were not obtainable, it is assumed that regular and HSC intermediate days are distributed, respectively, in the manner of regular and HSC extended care days. This yields an estimate that 80.9 per cent of all NH residential care days are being used by persons 65 and over. Elderly residents were responsible for 92.0 per cent of the days produced in homes for the aged in 1976. Details of the ownership, management, and funding of nursing homes and homes for the aged were given in the previous section on extended care.

TABLE 31
Residential care program and age specifics by type of institution, Ontario 1976

Institution	Number of institutions	Beds[a]	Days provided[a]	% Days	% 65+[a]
Nursing homes					
Regular intermediate	–	1,434	524,844	9.0	91.1
Homes for special care					
Intermediate	–	502	183,732	3.2	51.9
Subtotal	381	1,936	708,576	12.2	80.9
Homes for aged	180	15,353	5,087,452	87.8	92.0
Total	561	17,289	5,796,028	100.0	90.7

a Estimated (see Gross, 1978.)
SOURCE: Derived from data supplied by OMH, Data Development and Evaluation Branch

PSYCHIATRIC CARE (PC)

There are three institutional sources of psychiatric services in Ontario: provincial psychiatric hospitals, psychiatric units in general hospitals, and other public psychiatric institutions (see Table 32).

Provincial psychiatric hospitals were the traditional institutional source of psychiatric services in Ontario but since the advent of the community mental health movement in the 1960s, the size of this sector has diminished drastically. In 1950 there were 19,507 patients in provincial psychiatric hospitals (OMH, 1974a).

Table 33 shows the rapid reduction in the proportion of elderly admissions (15.4 to 8.4 per cent) and patients on the books (18.3 per cent to 10.9 per cent) in Ontario psychiatric facilities from 1961 to 1971. It also shows the continuous reduction in the number of admissions 65+ and patients 65+ on the books from 1974 to 1976. As shown in Table 32, provincial psychiatric hospitals continue to provide nearly three-quarters of all psychiatric care days in Ontario. The patients in those hospitals, more than in other facility types, suffer from chronic mental conditions requiring them to be in custody. Psychoses predominate, and lengths of stay are long. There were fifteen provincial psychiatric hospitals in Ontario in 1976 including two in Goderich and South Porcupine that closed in April of that year.

The second largest part of the psychiatric care sector in Ontario are the psychiatric units in general hospitals. These units, of which there are fifty-

TABLE 32
Psychiatric care by facility type, Ontario 1976

Type of facility	Facilities	Units	Rated beds	% Beds	Days provided	% Days
Provincial psychiatric hospitals	15	–	5,426[a]	71.8	1,691,098[b]	72.4
Psychiatric units	–	53	1,798	23.8	556,406	13.8
Other public psychiatric hospitals	3	–	331	4.4	88,515	3.8
Total	18	53	7,555	100.0	2,336,019	100.0

a Excludes beds in Goderich Psychiatric Hospital and South Porcupine Northeastern Regional Mental Health Centre, both closed 1 April 1976.
b Estimated for calendar 1976 from data in this chapter.
SOURCE: Derived from OMH (1976a) and from data supplied by the OMH, Data Development and Evaluation Branch

TABLE 33
Patients 65+ on books, admissions to,
and discharges from psychiatric facilities, Ontario 1961–76

	Patients on books		Admissions		Discharges	
	No.	% of total	No.	% of total	No.	Rate/ 100,000
1961[a]	4,553	18.3	1,463	15.4	1,287	253.3
1966[a]	2,799	13.2	1,782	12.3	1,546	272.3
1971[a]	1,694	10.9	1,456	8.4	1,110	172.2
1974[b]	1,213	19.7	1,372	8.7	1,412	204.6
1975[b]	1,122	20.7	1,325	8.4	1,279	183.2
1976[b]	1,001	19.9	1,244	8.9	1,200	162.5

a Includes psychiatric hospitals and facilities for the retarded.
b Does not include facilities for the retarded.
SOURCE: *Ontario Statistics 1978*

three, are more widespread than the provincial hospitals. Since they concentrate on the care of acutely ill mental patients, neurotic conditions prevail and lengths of stay are comparatively short. The third category of psychiatric care comprises three public hospitals offering specialized psychiatric treat-

ment: the Clarke Institute of Psychiatry, the Clinical Institute of the Alcoholism and Drug Addiction Research Foundation, and the Donwood Institute, all in Toronto. The last two hospitals specialize in the treatment of alcoholic and drug addiction while the Clarke provides more general psychiatric treatment to patients with acute mental ailments. Both the Clarke and the Clinical Institute serve as teaching centres for students in the health professions. These three special hospitals provide only a small part of all the institutional psychiatric care in Ontario (see Table 32).

Public psychiatric hospitals are funded and administered in the same way as other public hospitals. Psychiatric units, which are located in public general hospitals, are administered as part of those institutions. As their name suggests, provincial hospitals are controlled and operated by the province of Ontario, which pays all operating and capital costs. Provincial hospitals are not included in the provisions of the Hospital Insurance and Diagnostic Services Act. As a result they report their spending in fiscal years to the Fiscal Resources Branch of the Ontario Ministry of Health. This caused slight complications in our costing exercise, which was based on the calendar year 1976. They will be discussed in Appendix A.

Table 34 gives data on patients separated from institutions providing psychiatric care in 1976. It can be seen that stays in provincial hospitals are much longer than stays in psychiatric units and other public hospitals, particularly for the elderly, whose average length of stay (ALOS) is nearly two years. Such vast age differences in ALOS are not evident in the last two institutional groups although in total the elderly stay nearly four times as long as the young. The other striking finding in Table 34 is that the aged accounted for a much smaller proportion of cases and days in all sources of psychiatric care than they did in other institutions. The elderly's share of patient days is 28.2 per cent in provincial hospitals but 10 per cent or less in other settings. We have already noted the rapid reduction in the proportion of elderly admissions – to less than 9 per cent in Ontario psychiatric facilities (see Table 33). This is surprising in view of the reported prevalence of disabling psychiatric disease among the elderly, which we will discuss in Chapter 5.

OTHER FORMS OF INSTITUTIONAL CARE IN ONTARIO

Although the institutions described above account for most of the institutional services to the aged in Ontario, the others ought to be mentioned briefly. They are: private active treatment hospitals, jails and detention centres, correctional centres, community resource centres, residential homes for special care, municipal hostels, rest homes, homes for retarded persons,

TABLE 34
Age differences in cases, days, and average lengths of stay for patients separated from psychiatric care, Ontario 1976

	All ages	Aged 0–64		Aged 65+	
		No.	%	No.	%
Provincial hospitals					
Cases	14,847	13,381	90.1	1,466	9.9
Separated days	3,450,400	2,478,449	71.8	971,951	28.2
Average length of stay	232.4	185.2		663.0	
Psychiatric units					
Cases	28,469	26,557	92.7	2,092	7.8
Separated days	533,865	480,161	89.9	53,704	10.1
Average length of stay	18.6	18.1		25.7	
Other hospitals					
Cases	2,839	2,730	96.2	109	3.8
Separated days	86,496	82,282	95.1	4,214	4.9
Average length of stay	30.5	30.1		38.7	
Total					
Cases	46,335	42,668	94.2	3,667	5.8
Separated days	4,070,761	3,040,892	74.7	1,029,869	25.3
Average length of stay	87.9	71.3		280.8	

SOURCE: Gross (1978)

adult group homes, mental retardation schedule I and II facilities, community psychiatric hospitals, private institutions for mentally ill adults, and federal hospitals.

Many of these types of institutions do not contain many elderly persons, and some, such as jails and correctional centres, have nothing to do with health. In others, on the other hand, most of the residents are elderly. It is assumed, for example, that most of those persons living in rest homes are over 65. However, because these homes are only loosely controlled and regulated, the number of homes and residents is not known. Federal hospitals also contain many elderly in-patients, and their numbers are increasing owing to the gradual aging of the armed forces population. In Ontario, that group is served by the Westminster Hospital in London and the National Defense Medical Centre in Ottawa. Altogether, federal government institutions accounted for 1,119 rated beds in the province in 1976. Smaller groups of elderly persons may also be found in residences for the mentally ill and retarded. Those include residential homes for special care, retarded persons, and mentally ill adults, as well as community psychiatric hospitals and group

homes. Although taken together their contribution to the old may be significant, according to the ministerial agencies responsible for them, individually those homes serve only a negligible number of elderly persons.

ISSUES

The availability and co-ordination of health services and health-related social services stand out as two important issues in the delivery of health care to the aged in Ontario. With regard to availability we have documented the importance of institutions in the province. Many investigators have commented on the large and confusing number of types of institution in Ontario. The three main locations for long-term care are hospitals, homes for the aged, and nursing homes, which are all under various auspices, both public and voluntary; in the public sector they are under the jurisdiction of separate ministries that have different ways of inspecting, funding, and determining eligibility.

We have divided institutional care into five basic types: residential, extended, chronic, special rehabilitation, and acute. The Ministry of Health and the Ministry of Community and Social Services keep statistics for those institutions in quite different ways. Even their definitions of aged are not the same: in the one case it is 65+ and in the other 60+. Some institutions provide mixtures of the five levels of care, with the result that there is a good deal of confusion as to what type of institution and to which ministry the patients or residents should belong. We agree with the recommendation, which is made often that *all* institutional care of the elderly should be under one ministry. It would be particularly helpful if nursing homes and homes for the aged were under a single ministry, since the patients in the former are becoming less and less distinguishable from the residents in the latter. Because people entering homes for the aged are progressively older and sicker, those homes are virtually becoming public nursing homes, and it would seem logical to put them all under the jurisdiction of the Ministry of Health. This would certainly make co-ordination of care much easier, and, one hopes, would reduce costs.

In Toronto there has been a good deal of competition, much of it positive and productive, between longstanding Baycrest, built on a so-called multi-care, geriatric-campus concept, and the newer Sunnybrook extended-care development, which is based on the 'British geriatric model.' A good deal of interest is being shown in the so-called Hamilton model, which emphasizes appropriate institutional placement. Other newer experiments are going on in Kingston, London, and Ottawa. More comparative studies should be made to help decide which institutional arrangements are most suitable for extension throughout the province.

We should pay a great deal of attention to the criticism expressed by elderly people in several recent studies. Both the Osborn-Sanders Study and the *Especially for Seniors* survey (both of which are summarized in Appendix B) reveal that a considerable number of elderly Ontarians look unfavourably on institutional care, which seems to get a good deal more criticism than medical care. Nursing homes seem to have a particularly bad reputation, while hospitals are both praised and blamed in the *Especially for Seniors* survey. Among the complaints are unavailability of beds and long waiting lists; inadequate care; and lack of time and indifferent or poor attitudes on the part of the staff.

There has been concern expressed about the very high proportion (three-quarters) of elderly (65+) Ontarians who die in institutions; almost one-half of all deaths occur in general hospitals. Were all these terminal admissions necessary – how long before death had they been admitted? How many elderly people were unnecessarily rushed to hospital, almost at the last minute, when it might have been much more humane to have allowed them to die at home? What about the aversion that was expressed by the elderly in both the above studies to unnecessary prolongation of life? Much more research is needed into many aspects of death and dying, including palliation, funerals, and grieving. What would be the cost savings of palliative care that helped those attending the elderly at home and avoided unnecessary terminal admission to an institution?

A persistent problem is presented by the many private residential, rest homes, or boarding homes throughout the province. Although they constitute only a tiny proportion of all institutional care and tend to be quite small, a few of them are fairly large. They are not supervised by either the Ministry of Health or the Ministry of Community and Social Services, which have only the vaguest idea of their location and numbers, but are controlled only very loosely and spasmodically at the local level. New provincial legislation is essential. Much better tabulation and supervision of these facilities is necessary and long overdue in many municipalities, especially in rural areas (Schwenger and Palin, 1974).

Our examination has calculated that there were 111,195 institutional beds in Ontario in 1976, or a ratio of 13.5 beds per 1,000 population. There were 66,225 beds, used mostly by the aged, in long-term care facilities, nursing homes, and homes for the aged. That is a ratio of 88.3 beds per 1,000 persons 65 and over. Stated another way, there was one institutional bed for every eleven aged persons in Ontario in 1976.

3
Health care to elderly Ontarians: non-institutional services

There is considerable variety of non-institutional health services and health-related services to the elderly in Ontario. Some are based in institutions although their recipients are admitted only temporarily or not at all. Such services include ambulatory general hospital services, day care, vacation care, and day hospitals. Services provided by professionals such as physicians, dentists, nurses, and social workers are also an important element in the network of care to Ontario's aged. Personal aids to health such as drugs, dentures, eyeglasses, hearing aids, and prosthetics are also essential to the health of elderly persons. Organized community health services also benefit the elderly and are a significant component of the health care system to persons 65 and over. Community-based programs like public health services, home care, and visiting professional services are frequently advocated as alternatives to institutions since they are intended to help people in their own homes.

Non-institutional shelter, though not strictly a part of health care is nevertheless a crucial element in the social support system for the elderly because inadequate housing often causes the aged to move into institutions. Finally, planning and co-ordinating mechanisms such as placement services and district health councils, although they do not provide direct care, are instrumental in matching the needs of the elderly with available programs. The following sections describe each of the above services.

INSTITUTION-BASED SERVICES

Day care. This service is available in twenty-four homes for the aged in Ontario.[1] Recipients of day care either go to the homes or are transported

1 Reported by the Senior Citizens Branch, Ontario Ministry of Community and Social Services.

there for the day to take part in social and recreational activities with other people their age. Day care also enables elderly persons to become acquainted with the home for the aged where they may eventually live, and temporarily relieves their relatives who look after them.

Vacation care. This service, which is also being offered in an increasing number of Ontario homes for the aged, provides 'vacation beds', often during the summer, to elderly persons for a week or more. The aim of this service is to encourage people to continue to care for older family members in their own homes by relieving them from time to time of the heavy responsibility of maintaining a sick or frail elderly dependent. Like day care, it helps the elderly face the possibility of institutionalization.

Ambulatory hospital services. These services, which are available in the larger general hospitals of Ontario, provide both diagnosis and treatment. They include emergency departments, general and special outpatient clinics and surgical day care. Persons requiring these services are not admitted as inpatients. Data on the age distribution of such patients are not kept centrally in Ontario. However, all outpatient costs that are medically necessary are covered under OHIP.

Geriatric day hospitals. These are places to which elderly patients come during the day for several hours of therapy. Two added benefits are companionship and recreation among the patients and relief for the relatives and friends, who would otherwise be responsible for care during the day. However, the main purpose of the day hospital is to provide treatment and rehabilitation to the elderly and physically disabled. In that way they differ from day care centres, which provide primarily social and recreational programs rather than health services, and from psycho-geriatric day hospitals for psychiatrically disturbed elderly persons, which are only just beginning in this country.

Geriatric day hospitals originated in Great Britain in the late fifties and have been imported to Canada by geriatricians trained in Britain. So far they have not become common either in Ontario or the rest of the country. In 1978 the Ontario Ministry of Health knew of eleven such programs,[2] six in chronic-care hospitals and the rest in general hospitals. Most of the day hospitals in Ontario were established only very recently. A task force for examining long-term care services in 1974 mentioned only two day-hospital pilot projects in the province (OMH, 1974b). At present a task force in the Ministry of Health is reviewing day-hospital programs in Ontario in an attempt to determine the cost and therapeutic advantages of delivering ser-

2 Reported by the OMH, Community Health Division.

vices to chronically ill and disabled elderly in this manner.[3] Questions have been raised about admission requirements, therapeutic goals, transportation costs, dependency, and so on (Farquhar and Earle, 1978).

PROFESSIONAL HEALTH CARE

Medical treatment. In 1976, 12,258 medical practitioners billed the Ontario Health Insurance Plan (OHIP) for services provided to provincial residents.[4] Although that figure does not include the small number of doctors employed by industry and other organizations, it does indicate the magnitude of the professional group dispensing personal medical services in Ontario. All medically required treatment is covered in Ontario under the provincial health insurance plan. Approximately 90 per cent of physicians whose services are paid for under OHIP were enrolled in the plan in December 1976.[5] Doctors are paid direct from the plan according to a fee schedule drawn up by negotiation between the provincial government and the Ontario Medical Association. OHIP premiums are not collected from persons who have reached the age of 65. Extra billing of the elderly is rare.

As might be expected, the elderly make more demands on physicians' services than other age groups. Table 35 shows the age differences in the use of physicians for all services reimbursed in fiscal 1976 by OHIP. Evident from this table are the variations in the proportions of services used by the elderly in the different specialties. Therapeutic radiologists, physiatrists, and urologists all devote more than one-quarter of their services to the aged. None of these specialties, however, account for a very large proportion of total physician services. General practice, which is responsible for about one-half of all physicians' services, produces 17.9 per cent of those services for aged patients. Internists, the third largest specialty group measured in volume of service, generate over a fifth of their services on behalf of the elderly. At the other extreme, it is interesting to note the relatively small proportion of the services of dermatologists – 9.1 per cent – and the even smaller proportion of psychiatric services to the old – 4.6 per cent. The latter is consistent with our finding that in institutional care aged cases constitute only 5.8 per cent of all psychiatric patients. In total, Ontario physicians reimbursed under OHIP in fiscal 1976 delivered 16.2 per cent of all their services to older persons, who made up only about 8.9 per cent of the population.

3 Reported by the OMH, Community Health Division.
4 Reported by the OMH, Data Development and Evaluation Branch.
5 Ibid.

TABLE 35
Age differences in physician services reimbursed by OHIP, by specialty type, fiscal 1976

Specialty	All ages Services[a] (000)	Aged 0–64 Services[a] (000)	%	Aged 65+ Services[a] (000)	%
General practitioners	49,522	41,054	82.9	8,468	17.1
General surgeons	2,346	1,802	76.8	544	23.2
Internists	10,633	8,230	77.4	2,403	22.6
Obst.-Gyn.	1,861	1,736	93.3	125	6.7
Paediatricians	4,021	3,989	99.2	32	0.8
Orthopaedic surgeons	854	749	87.7	105	12.3
Otolaryngologists	1,034	899	86.9	135	13.1
Urologists	494	355	71.8	139	28.2
Diagnostic radiologists	3,872	3,338	86.2	534	13.8
Therapeutic radiologists	65	42	64.3	23	35.7
Anaesthetists	6,056	5,190	85.7	866	14.3
Neurologists	349	273	78.2	76	21.8
Psychiatrists	2,194	2,093	95.4	101	4.6
Ophthalmologists	1,473	1,111	75.4	362	24.6
Dermatologists	1,068	971	90.9	97	9.1
Pathologists	12,221	10,351	84.7	1,870	15.3
Neurosurgeons	130	109	83.7	21	16.3
Plastic surgeons	187	167	89.3	20	10.7
Thoracic surgeons	43	33	76.3	10	23.7
Physiatrists	302	203	67.3	99	32.7
Total	98,725	82,695	83.8	16,030	16.2

a Units of service as defined by OHIP for the reimbursement of physicians.
SOURCE: Derived from data supplied by OMH, Data Development and Evaluation Branch

Dental care. In Ontario dental care is provided by nearly four thousand dentists operating private practices in most of the province's communities (RCDS, 1977). Their services are not included under OHIP, but in recent years, dental insurance has become more common as a labour benefit. However, since the elderly are virtually all retired, most are excluded from such plans. The province of Alberta has introduced a 'denticare' program for its elderly residents. It has been estimated that such a plan in Ontario would in 1976 have cost more than $100 million (OCH, 1978). Nevertheless the Ontario Council of Health Task Force recommended that the Ministry of Health consider paying for major dental treatment for the needy elderly.[6]

6 Evans and Williamson (1978) are not in favour of universal public denticare.

The Task Force was told that 60 per cent of Ontarians 65+ needed some dental treatment and that elderly people make up about 5 per cent of an average dentist's practice (OCH, 1978). The survey data reported in Chapter 6 show that the aged make 40 per cent fewer dental visits than the general population. In part, this may be attributed to under-servicing, although a higher incidence of elderly people with no teeth reduces the need for visits to dentists.

Nursing care. Nursing is a large part of the treatment services; it is offered in acute general hospitals, nursing homes, and homes for the aged. Community (public health) nurses, working in local health departments, and visiting nurses, usually employed by such voluntary organizations as the Victorian Order of Nurses or the St. Elizabeth Visiting Nurses Association, are in continual contact with more elderly people than are the members of any other profession. The nurse in the institution, in conjunction with the physician, assesses the patients' condition, provides nursing care, and monitors the patients' progress. The community health nurse who works with sick elderly people helps the patient and his family accept the fact of chronic illness, gives nursing care, helps patients accept limitations on their everyday activities, creates a safe physical environment, and assists families with their caretaker roles. The public health nurse has a particular contribution to make in teaching old people about health and monitoring them in their homes. (ibid.).

Social work. Although social work is not usually considered a health profession, a significant proportion of professional social workers do work in health care. Their services are available to the elderly both in institutions and community agencies. In general hospitals the social worker works with patients and their families who are moving from one level of care to another. Social workers are also engaged in counselling and in social and recreational programs for the aged. Some residential institutions including homes for the aged have large departments of social work (OCH, 1978).

Other health professions The elderly also receive services from physiotherapists, occupational therapists, nutritionists, pharmacists, optometrists, chiropractors, and podiatrists. The importance of podiatric treatment to the elderly is indicated by OHIP data showing that in fiscal 1976 nearly one-half of the services provided by podiatrists under the plan were for persons 65 years and over. For the same period optometrists and chiropractors each provided only about 12 per cent of their OHIP-reimbursed services to the aged.[7]

7 Taken from data supplied by the OMH, Data Development and Evaluation Branch.

AIDS TO PERSONAL HEALTH CARE

There are a number of personal health care aids such as drugs, dentures, eyeglasses, hearing aids, and prostheses that are essential equipment for health care personnel.

Prescription drugs. These are available to the elderly at no cost through the Drug Benefit Program. Begun in September 1975, the plan covers all drugs prescribed by a physician and listed in the Ontario Drug Benefit Formulary, which contains some 1,600 items. According to data reviewed in Chapter 6, the elderly take over twice as many prescription drugs per capita as the general population. The Task Force on Health Care for the Aged concluded that the present system lends itself to a variety of abuses – by physicians, by elderly patients, and by pharmacists – and it recommended a mechanism for controlling the dispensing of drugs to elderly persons at home or in institutions (OCH, 1978).

Orthopaedic and prosthetic devices. These are sometimes provided as sickroom equipment to recipients of home care or by voluntary groups such as the Canadian Red Cross. Old people's increasing need for dentures, glasses, and hearing aids has been well pointed out by the Task Force on Health Care for the Aged, which recommended that the Ministry of Health consider paying all or part of the cost of such articles for some of the elderly; eligibility would be determined on the basis of need (ibid.).

COMMUNITY HEALTH CARE

Public health departments. There is an extensive network of these departments covering virtually all of the population of Ontario. These local official health agencies are under the jurisdiction of boards of health, whose chief executive officer is the Medical Officer of Health who has a staff of public health nurses, public health inspectors, dentists, dental hygienists, nutritionists, and others. In 1975–6 the Province allocated approximately $50 million (out of a total Ministry of Health budget of $3.4 billion) to local public health budgets. Money is also contributed locally – from 25 to 75 per cent of the budget. Out of the total budgets for local official health agencies in 1975–6, some 60 per cent was spent on personal health services and programs such as school health, mental health, maternal and child health, dental health and geriatric public health (Ontario Ministry of Health, 1976c).

Elderly people, as members of the general public, also benefit from public health measures that ensure the safety of water and food supplies and provide sewage disposal and protection from communicable diseases. It is, how-

TABLE 36
Individual contacts by public health nurses, geriatric and non-geriatric, Ontario, first five months of 1976 and 1977

	1976				1977			
	Geriatric		Non-geriatric		Geriatric		Non-geriatric	
Month	No.	%	No.	%	No.	%	No.	%
January	10,683	9	113,635	91	12,593	10	114,207	90
February	10,533	8	113,873	92	13,544	10	122,899	90
March	13,050	10	122,693	90	15,515	11	128,054	89
April	11,966	9	124,953	91	12,804	11	106,346	89
May	11,241	9	117,648	91	15,573	11	127,359	89

SOURCE: Ontario Ministry of Health

ever, from the personal health services that they derive their more specific benefit. It was estimated that 3 per cent of the total budgets of local official health agencies was allocated to geriatric services in 1975–6. (ibid.) By far the greater part of those services was provided by public health nurses, and the share appears to be growing, as indicated in Table 36.

This table shows a rise not only in the number but also in the proportion of visits to elderly people, even within a few months.[8] The average for the whole of 1977 is reported to have increased to 12 per cent. In 1977 new forms were used, dividing public health nurses' visits into 'Geriatric jr' (young-old) and 'geriatric sr.' (old-old). Of the 167,388 geriatric contacts in 1977, 71,959 (43.0 per cent) were geriatric jr, and 95,429 (57.0 per cent) were geriatric sr.

According to a comprehensive study of the City of Toronto's public health services (University of Toronto Public Health Study, 1977), a far higher proportion of individual contacts than group contacts were with the elderly (16 and 2.3 per cent respectively). There seemed to be very little relationship between the percentage of elderly people in different districts of the city and the group attendance of the elderly.

Organized Home Care (HC). The Ontario home care program brings professional health services and other services to persons who are living at home and who have good prospects for eventual rehabilitation or stabilization. There are thirty-eight home care programs in the province, each under separate administration. Most of them are administered by local health

8 Data for all of 1976 were unfortunately not available.

TABLE 37
Ontario home care program statistics, 1976

Total days	1,697,184
Total expenditure	$17,481,000
Cost per day	$10.30
Admissions	48,503
Average length of stay	29.6 days
Admissions 65+	24,845
% Admissions 65+	51.2

SOURCE: From data provided by the OMH, Home Care Program Section

departments; two are under the auspices of the Victorian Order of Nurses; and the program in Metropolitan Toronto is under the supervision of an autonomous voluntary board.

Home care consists primarily of short-term convalescent care and is covered by OHIP. Admission is based on the medically certified need for one or more professional services such as nursing or physical or occupational therapy. Most patients are admitted to the program after receiving treatment in an acute care facility, although 28 per cent entered directly from the community and 5 per cent were admitted from homes for the aged and nursing homes in 1976–7 (OCH, 1978).

Table 37 shows operational statistics for the Ontario home care program in fiscal 1976. 51.2 per cent of HC admissions were over the age of 65. This large proportion reflects in part the high utilization by aged persons of acute hospitals, from which most home care patients originate. A second cause is the long convalescence required by the aged after acute episodes or temporary exacerbations of chronic conditions. Obviously the per diem costs are much lower in home care than in institutions; however, those only include program, personnel, and supply expenses, not the secondary costs of family support, shelter, and board.

Although the Ontario home care program concentrates mainly on short-term medical conditions, the province has been experimenting since 1975 with the delivery of long-term services to the elderly and other persons with chronic and disabling conditions. Termed Chronic Home Care (CHC), this program was tested in three pilot projects in Hamilton, Kingston, and Thunder Bay, and extended in 1978 and 1979 to Ottawa, Haliburton-Kawartha-Pine Ridge, Peterborough, and Algoma so that it now covers 20.4

per cent of the province's population.[9] Unlike regular home care, chronic home care is provided to persons whose prospects for rehabilitation are slight or non-existent. About 72 per cent of admissions to the first three pilot programs were elderly (OMH, 1977b), a fact that is consistent with the high incidence of chronic and disabling illness among this group. Thus far, the Ontario government has deferred the expansion of chronic home care pending the evaluations of the pilot projects. Among its concerns are the costs of this program. Though expenses per patient day are much less than in institutional forms of care (OMH, 1977b), it is not certain how much demand there would be for chronic home care services should they be made available everywhere in the province. Extrapolated to the entire fiscal year 1978, it is estimated that expenses for the seven chronic home care projects would have amounted to $5.5 million.[10]

Professional organizations. Personal care is given to the elderly in their own homes by health professionals including visiting nurses, occupational and physiotherapists, and homemakers. Most of these services are provided under contract to such government-subsidized activities as home care and the welfare program. Nursing and homemaker services are of particular importance to the elderly. St Elizabeth's Visiting Nurses and the Victorian Order of Nurses (VON) are two non-profit groups providing nursing care in the community. By far the larger of the two organizations, the VON has thirty-three branches and serves thirty-four of the province's thirty-eight home-care agencies. About three-fifths of their visits are to persons receiving home care. Another one-fifth are subsidized by the federal government through the Department of Veteran Affairs and under the provincial welfare provisions of the Homemakers and Nurses Services Act. In 1976 the VON made 591,732 visits, of which 339,494, or 57.4 per cent were to persons 65 years and over.[11]

Homemakers are persons with some training who do light housekeeping and cleaning, prepare meals and give minimal bedside assistance, and so on to persons who for health reasons cannot do those things for themselves. Among the organizations that bring homemaker services to Ontario residents are the Visiting Homemaker Associations of Hamilton, Ottawa, and Toronto; Co-ordinated Services to the Jewish Elderly; the Ontario Division

9 Reported by Director, Home Care Program Section, OMH.
10 Reported by Director, Home Care Program Section, OMH.
11 Information about the VON reported by the Director, Ontario Chapter, Victorian Order of Nurses.

of the Canadian Red Cross Society; and some commercial providers such as Upjohn Limited. The Red Cross program has the widest geographical distribution: it offers homemaker services in over fifty locations in the province. Like the VON, homemaker organizations mainly serve patients eligible for government-subsidized health and welfare programs. The Red Cross reports that visits are more or less equally divided among home care, welfare, and private-paying patients. The majority of the visits are made to persons over 65 years.

Other community services. There are many other services to the aged: meals-on-wheels, housekeeping, transportation, friendly visiting, home maintenance and handyman services, personal counselling, home security and monitoring, and social and recreational programs. The sponsorship and funding of these services is varied. Church groups and fraternal, civic, and voluntary organizations piece together budgets from voluntary and governmental contributions to operate these programs. One significant source of funding is the support given by the province to so-called Elderly Persons' Centres. Operating funds to a ceiling of $15,000 a year are granted through the Ministry of Community and Social Services to centres that qualify for assistance under the Elderly Persons' Centres Act. The Senior Citizens Branch of the ministry reports that ninety-one centres were operating with provincial subsidies in 1976. Among their services are social integration, day care, meals, transportation, information, and counselling. Limited financial assistance is also available to organizations offering community services through the so-called Alternatives to Institutional Care Project Grants coordinated by the Ministry of Community and Social Services. These are two-year demonstration projects aimed at helping the aged to maintain themselves outside institutions. At present twenty-seven such projects are being aided by provincial contributions amounting to about $250,000.[12] In addition the federal government funds, throughout the province, a greater number of support services that are initiated in large part by the elderly themselves. This is done through the New Horizons Program.

NON-INSTITUTIONAL SHELTER

Most older people in Ontario live in their own homes, and a substantial proportion are home owners. However, the high costs of maintenance and repairs and rising taxes and charges for utilities and heating place a heavy

12 Reported by the Senior Citizens' Branch, Ontario Ministry of Community and Social Services.

burden on more or less fixed incomes. Tenants, particularly if they live by themselves, can have even more difficult problems than house owners. The single person living on modest income, even under relatively generous provincial income maintenance programs, may spend 40–60 per cent or more of his or her income on rent, sometimes for one room in a large downtown, city house, often without adequate light, ventilation, or sanitary facilities (OCH, 1978).

It is for those reasons that socially assisted housing for the elderly has developed since the 1950s. Senior citizens' housing is provided in Ontario to persons 60 years of age and over through a complicated series of grants and loans between federal, provincial and municipal governments and non-profit organizations. At the end of 1976 the province had 53,462 units of self-contained apartments as well as 5,257 beds in hostels providing shelter, meals, and laundry services (see Table 38).

It is estimated that each self-contained unit, on average, contains 1.2 persons and that approximately 90 per cent of the occupants are 65+.[13] The number of Ontarians 65+ in purpose-built (or adapted) senior citizens' housing on 1976, therefore, can be calculated as follows:

Self-contained units	
53,462 × 1.2 × 0.9	57,739
Hostel beds	
5,257 × 0.9	4,731
Total 65+	62,470
Percentage of total elderly	
Self-contained units	
57,739 ÷ 738,920 × 100	7.8
Hostel beds	
5,207 ÷ 738,920 × 100	0.7
Total	8.5

Hence about 62,470 or 8.5 per cent of Ontario's citizens aged 65+ lived in purpose-built subsidized dwellings in 1976. Unfortunately, however, the 5,257 hostel beds reported above include an unknown number of residential care beds in charitable homes for the aged, which also receive capital funding

13 Information supplied by the Ontario Ministry of Housing and the Ontario Regional Office of CMHC.

TABLE 38
Housing assistance for elderly, approved by central mortgage and housing corporation, Ontario 1976

	Self-contained units	Hostel beds
Public housing	41,906	334
Non-profit and limited dividend	11,556	4,923
Total	53,462	5,257

SOURCE: CMHC (1976)

from the Central Mortgage and Housing Corporation (CMHC). In fact there have been very few non-institutional hostel beds built in Ontario, and we concluded that the vast majority of the 5,257 hostel beds are actually in homes for the aged. That leaves approximately 8 per cent of elderly Ontarians in purpose-built government-subsidized housing.[14]

Although by 1976 Ontario had built almost half the self-contained apartments for the elderly in Canada (53,462) and thus had a rate well above the average for the country as a whole (72.4 per 1,000 population 65+), the number of hostel beds on the other hand (5,257) gave it by far the lowest rate of any province in Canada (7.1 per 1,000 population 65+). (CMHC, 1976)

PLANNING AND CO-ORDINATION

Placement co-ordination services (PCS) are programs that assess the needs of individuals and match them with the services best suited to meet those needs. Although such services are not exclusively for the aged, this group is the main concern of such placement services because there are so many elderly people in institutions and because it is so difficult to place older patients.

At any one time in many Ontario communities, a substantial proportion of persons in institutions are said to belong somewhere else. One study in London Ontario concluded that of the elderly in institutions 30–50 per cent were misplaced, and perhaps 20 per cent appeared capable of taking care of them-

14 According to a recent report (Metro Social Services, 1978), some 10 per cent of Metro Toronto's senior citizens were in some sort of assisted rental housing in 1977.

selves in their own homes. (Cape 1977). An earlier investigation in Kingston Ontario produced approximately the same results (Kraus et al., 1976).

There are three placement services in the province – in Thunder Bay, Ottawa, and Hamilton-Wentworth. The oldest is the Hamilton service (formerly the Hamilton-Wentworth Assessment and Placement Service), which was set up in 1971 with funding from the Ontario Ministry of Health. Between 1971 and 1975 over 80 per cent of the 9,300 people referred to it were aged (Bayne and Caygill, 1977). Assessment is provided by the patients' own physicians; placement is co-ordinated centrally. It is a fact finding organization that helps the planning and evaluation of geriatric services locally. The programs in Ottawa and Thunder Bay are modifications of the one in Hamilton. In London the co-ordination is done by a professor of geriatrics; the assessment of each patient and the recommendations for treatment are available to the patients' physicians, a practice that originated in Britain and that is referred to as the British geriatric model (see OCH, 1978).

Despite the apparent advantages of such placement services in achieving more co-ordination and continuity in the care of the aged, they have not spread widely in Ontario. This is probably due to three common misgivings about them. First, there is considerable controversy about who is best qualified to assess patients. Secondly, placement services have little control over the number of patients they see because the institutions and medical professions have so much autonomy. Thirdly, the cost advantages of placement services have not yet been demonstrated, although some savings may be realized. However, their main purpose is to facilitate a better matching of needs to services.

Closely related to placement co-ordination services are District Health Councils (DHC), of which there are at present twenty-one. DHCs have been established by the Ministry of Health to integrate health planning at the community level. Like placement co-ordination services, these bodies are concerned with the health of all groups in the district. However, because of the difficulties in integrating services to the elderly, the geriatric population is an inevitable preoccupation of the councils, and the care of the aged was one of the main topics for consideration at the 1978 Annual Meeting of the District Health Council (Action IV Conference). Fifteen of the district councils (70 per cent) have established committees with the primary purpose of addressing the health care problems of the elderly, and in 1978 several of them had either produced or were planning surveys of the needs and resources of their elderly populations. Some fairly elaborate reports have been produced (e.g. Niagara District Health Council, 1977), and many councils are apparently spending a vast amount of time and money in this area, with the result that a

good deal of effort is being wasted in covering the same demographic and epidemiological ground. The councils that have not conducted surveys have plans to do so in the near future. The following are a few quotations from a questionnaire answered by all district health councils.

What we need is to change the perceptions of the community and the aged. Discard the negative self-image. Let old people see their true value.

We have insufficient legislative clout, which is always talked about. And we also have insufficient placement clout. We can't really tell people where to place the elderly.

Our data needs are very very great – both institutional and community. We need a much better data base.

A major weakness is the artificial jurisdictional boundary for care of the elderly between the Ministries of Health and Social Services – a major difficulty is the absence of a comparable social service vehicle to the DHC.

While they are growing in numbers, the effectiveness of district health councils has been questioned on some of the same points leveled at placement co-ordination services. The most common question is whether the councils, which have only advisory status, are able to integrate the many disparate and independent services. Another misgiving is that the health councils are mandated to address only the health services that are under the jurisdiction of the Ministry of Health. Thus any efforts to co-ordinate health programs with social and housing services are bound to be frustrated at the district level by fragmented ministerial responsibilities. Still another issue is the appropriate representation of the elderly themselves on the councils and their various committees.

ISSUES

Unlike institutional services to the aged, most non-institutional services in Ontario are few and far between. Some of them, such as ambulatory general hospital services, day care, vacation care, and day hospitals are based in institutions and are in very short supply.

As for professional services, in the case of physicians, the question should first be asked whether the 16 per cent of all services delivered to the elderly (who make up 9 per cent of the population) may well be too low, considering the large health needs of this group. One might particularly question the very small proportion of services to the elderly by dermatologists and psychia-

trists. Are skin diseases less common in the elderly? And in view of the very high documented psychiatric needs of the aged, one might ask whether older patients are avoiding psychiatrists or vice versa? Similarly with dentists – why is there apparently such an extraordinary emphasis on youth?[15] And why has there been so little co-ordination by the various health professions in the delivery of health services to the aged?

Physicians have been much criticized by other health professionals for imposing their own method of treatment on the rest of the health system. We agree that doctors tend to emphasize disease and to neglect primary prevention, home care, and self care. This emphasis may well lead to premature dependence on physicians, drugs, and hospitals (Illich, 1976). One can see the essence of the difference between the medical and nursing models by examining the curricula of the Ontario B.Sc.N. courses (see Mantle, 1979), which indicate a concern for social and psychological issues, primary prevention, and family and self care. On the other hand there is very little time spent on problems in clinical nursing and the illnesses behind them. As for practical training, there is much more emphasis on care at home and in the community than chronic care in the hospital. Social workers on the other hand put the emphasis on the social milieu and social aspects of long-term care and may unnecessarily play down concomitant health and illness.

Surely all of these disciplines have something to learn from one another. Physicians on the one hand need to be reminded of the significant minority of elderly people who find that their doctors do not understand them and who are dissatisfied with their treatment (see Appendix B). They need to give much more importance to health promotion and self care and less to drugs and institutions. They also have a lot to learn from the so-called gerontological nursing model. According to the Osborn-Sanders Study physicians' wishes are the leading reason why patients enter institutions. If the trend for physicians to make fewer house calls continues, what efforts will be made to give elderly people who are disabled, bedridden, chairfast, or housebound the same access to health care as the rest of the population?

Many surveys of the elderly have asked citizens if they would like to be visited at home by a nurse if the physician cannot come. The majority in the Osborn-Sanders study would welcome such visits. However, the B.Sc.N. curriculum seems to give very little instruction in caring for sick elderly persons, even at home (Mantle, 1979). Surely there is a great deal more for nurses to learn about the diagnoses, treatment, and rehabilitation of the illnesses that are prevalent among the old-old, who compose the greater part of the elderly

15 The dental needs of the elderly have been shown to be very great (OCH, 1978).

housebound and who are very much on the increase. If nurses are to fulfil their recommended role in the care of the elderly at home (OCH, 1975), if they are to act on behalf of or replace the physician in the care of the housebound old-old, then it seems to us that they will need to be much more familiar with the diseases of the aged and with the so-called geriatric medical model. At the time the data were gathered for the study, the university training of nurses seemed to give excellent preparation for the care of the relatively well young-old but left something to be desired in the care of the sick old-old.

As for the social aspects of long-term care, we need to be reminded not only of their crucial importance but also of their inextricable relationship to the medical condition of the elderly. Physicians, nurses, social workers, and so on must start to work together more closely as a real team and to combine their various models into a 'caring model' that would emphasize the provider less, and the patient more. (This might be done more easily in community health centres.) Many of us hope that doctors and nurses particularly will start to work together and that a multidisciplinary teamwork will emerge, based on mutual respect for each other's differences and capabilities.

In education and research in gerontology and geriatrics, the value of interdisciplinary effort is well recognized. At the University of Toronto it has been quite rightly decided that the new program in gerontology will be independent of the Faculties of Medicine, Nursing, and Social Work and also separate from the behavioural sciences; rather it will emphasize interdisciplinary, co-ordinated programs between all of these and others. As pointed out in Marshall et al. (1979), a survey of research in social gerontology in Ontario, geriatric research has been given much more support in Ontario than gerontological research. If we have to use gerontological research from other countries, then psychological, biological, and medical research is more or less applicable to Canada. But we do need a good deal more social gerontological research in Canada and Ontario because we cannot assume that the results of American studies are applicable here. The neglected areas appear to be anthropology, political science, and social work – all of which of course, have close relationships with health and health care. Much more support is needed for gerontological research, and a balance needs to be struck between practical, 'action' research and theoretical academic research.

Prescription drugs may be much too freely available to the elderly in Ontario through the Drug Benefit Program; much better monitoring and control is necessary. Prosthetic appliances, on the other hand, are only intermittently available, and other personal health care articles such as dentures, glasses, and hearing aids are said to be a financial burden to many of the

elderly, who should be given financial help. (OCH, 1978). However, only a small proportion of the elderly in the Osborn-Sanders Study and among the concerned letter-writers in the *Especially for Seniors* survey who are worried about the cost of health care mentioned health aids.

Public health departments and other local organizations supply an increasing proportion of their services to the elderly in their own homes. Questions need to be asked about public health nurses' visits, such as what relative importance is given to geriatric or gerontological public health; the right balance between primary and secondary prevention; whether more purely social visits should be made by other agencies; and the balance between group teaching and home visits. Although organized home care is increasing it is still not generally available for persons with chronic, long-term, and irreversible conditions that are not amenable to rehabilitation.

Although a great number of senior citizens' housing units have been made available (perhaps even too many in some places) there is an insufficient variety and quantity of sheltered housing, congregate housing, foster home care, and hotel or hostel accommodation. We need to recognize a continuum of needs between completely independent housing and dependent institutional care. With regard to the increasing trend to age-segregated facilities, it is interesting to note that one-fifth of the respondents in the Osborn-Sanders Survey would prefer neighbours of all different ages. We must continue to offer this option. Many elderly people are forced to enter institutions for lack of suitable housing, but do not always realize that. The reasons given in the Osborn-Sanders Study were increasing lack of money, physical dependence, and isolation.

Few of the non-institutional services listed above are generally available everywhere in Ontario, nor are any of them large enough in number to be an effective and less costly alternative to institutions. Recognizing this imbalance and the high costs of care in institutions, the government of Ontario has adopted policies designed to shift the emphasis in care services away from institutions. The number of active treatment beds per thousand population has been slowly dropping: from more that 5 per thousand population in the late sixties it fell to fewer than 4.8 in 1976. The government hopes to reduce the number further to 3.5 per thousand Ontario residents (Timbrell, 1978a). Similar policies have been adopted for nursing homes and homes for the aged. The number of beds in these institutions has been virtually frozen since the early to mid-1970s. Because of the expected increase in the population, especially among the aged groups that are the heaviest users of health services, the availability of institutional places is bound to fall behind demographic growth. In their place, civil servants and politicians have advocated

such alternatives as home care and other community services (Carman, 1978a, 1978b; Norton, 1978; Timbrell, 1978b), but so far these proposals have not been accompanied by very much public financial support, and non-institutional alternatives remain few and far between.

If one crucial issue in the delivery of services to the aged is availability, the other is co-ordination. Our analysis has shown that at the ministerial level, the programs affecting the health care of the aged are divided by jurisdictional and funding differences, as has already been outlined with regard to homes for the aged and nursing homes. Similarly community centres and recreational facilities receive funding from both the Ministry of Culture and Recreation and the Ministry of Community and Social Services. Also the division of responsibility is unclear between the services delivered in the Organized Home Care Program and other home care services. It seems that accommodation programs under the jurisdiction of the Ministry of Housing are planned in total isolation from the closely allied programs of the ministries responsible for health and social services.

Until recently the Ontario Ministry of Community and Social Services had an Office on Aging, but its work of co-ordination was hindered by its lack of comprehensiveness, autonomy, and power. Other attempts at co-ordination, through the Secretariat for Social Development and the Ontario Advisory Council on Senior Citizens, have only been moderately successful for much the same reasons. The Ontario Welfare Council, a province-wide voluntary organization, has also failed to rationalize the system.

Many have recommended special co-ordinating mechanisms such as the provincial offices on aging described by the Federal Task Force (Health and Welfare Canada, 1976) and the new co-ordinating mechanism sponsored by the Task Force on Health Care for the Aged (OCH 1978). Whatever the provincial co-ordinating mechanism, it is crucial that responsibility for housing be brought under the same umbrella as health, social services, recreation, and education. This would include consideration of bringing housing under the jurisdiction of the Ontario Secretariat for Social Development.

Fragmentation of responsibility among several ministries is not the only cause of confusion. At the community level services to aged persons fall under various agencies and have varying rules of eligibility. Nursing homes for example are private, commercial enterprises, while homes for the aged are operated by municipal and non-profit organizations; aged persons of small means may be eligible for the services of a visiting homemaker or other professional, while others with marginal income do not qualify; one community is included in the chronic home care project, while a neighbouring town is excluded.

All of these factors and others contribute to the inappropriate and inefficient delivery of health services to the aged. Some efforts have been made at co-ordinating the services at the local level. Social planning councils and senior citizens' councils have had only modest and varying degrees of success in bringing voluntary and official bodies together. Placement co-ordination services and district health councils are other notable examples. However, both of these services are hampered by jurisdictional differences at higher governmental levels. It is the mandate of the district health councils to review services under the Ministry of Health, but unfortunately, the needs of the elderly go beyond those health programs. Furthermore, neither district health councils nor placement services have any authority to control events in the communities they serve. They can advise and encourage but not direct; nor do they have sufficient jurisdiction over closely related social services.

We are in agreement with Recommendation 38 of the Task Force on Health Care for the Aged (OCH, 1978), which gives district health councils the responsibility for developing community services, information services, and volunteer programs. It would, however, be helpful, as recommended by district councils in that report, to have a similar district social service council and to give considerably greater powers to both councils. It might be even better to accept the recommendation of one provincial party (the New Democratic Party of Ontario) that we turn district health councils into truly integrated district health and social services councils (NDP, n.d.).

Given the many and increasing needs of the elderly, efforts at co-ordinating services for them will undoubtedly face greater challenges as the Ontario population ages.

4

Future elderly Ontarians: how many will there be?

In order to predict the future costs of health services to the aged in Ontario, it is of course necessary to try to predict just how many elderly Ontarians there will be in our different age categories (65–74, 75–84, and 85+) at the future dates we have chosen for our projections (10 years, 25 years, and 50 years from now). Futurology is a risky undertaking, and demographic projections are no exception. It must always be kept in mind that projections are simply best guesses based on past trends and on current information that has a bearing on future populations.

There are three variables that affect population: fertility, migration, and mortality. It is easy of course to project actual numbers of elderly people, even fifty years into the future, since we can forget about fertility as a factor, and since most of the elderly who will be living in Canada in 1986, 2001, and even 2026 are already living here now. Those who will be 65+ in 1986 were at least 55 in 1976; those who will be 65+ in 2001 at least 40; and those who will be 65+ in 2026 at least 15, (i.e. born before 1961). We are therefore fairly certain of at least those who are living in Canada now and who are expected to reach 65+ at those future dates.

Another variable is migration. Although it is not expected that there will be many middle-aged and elderly immigrants (55+) before 1986, projections of the number of progressively younger immigrants between now and 2001 and particularly between now and 2026 are more difficult. Similarly the emigration of the middle-aged and elderly both out of the province and out of the country (perhaps to warmer climes) are impossible to predict.

As for mortality, we have perhaps been underestimating the decreasing mortality of those 65+, 75+, and 85+, as Myers (1978) has pointed out. Although we do not expect a great lengthening of the life span, we can per-

haps expect the same decrease in elderly age-specific mortality rates and a lengthening in the life expectancy rates at older ages in Ontario.

Nevertheless, in spite of all the difficulties described above, we at least have conservative projections of the number of elderly Ontarians in 10, 25, and 50 years, which we trust will not be far wrong.

When it comes to estimating what proportion those elderly people will compose of the total Ontario population, we must make assumptions about future Ontario fertility – and over and over again fertility has proved to be by far the most unreliable of the three components of population growth. Almost everyone is predicting that the fertility of Canadian and Ontario women will remain low but no one can be sure. Think of the number of crystal balls that must have been smashed by population projectionists when birth rates in the 1960s went down instead of up, as had been almost universally predicted.

PREVIOUS PROJECTIONS

Until fairly recently, most people had been using the projections made by Statistics Canada and based on the 1971 Census (Statistics Canada, 1974). There were four projections available in which Canadian total fertility rates[1] varied from 1.8 to 2.6 and international net migration varied from 50,000 to 100,000. In all four projections life expectancy at birth was projected to increase from 69.2 to 70.2 in men and from 76.1 to 78.4 in women. (These changes were to occur from 1971 to 1985, after which there were to be no more changes.)

The most popular of the four projections was based on the assumption of an international net migration of 60,000 and a Canadian fertility rate of 2.2 by 1985. The projections in Table 39 were made on this basis.

These projections were used and extended to 2031 to develop the dramatic and widely used statistics on future hospital trends (Rombout, 1975a and 1975b) in which it was estimated that from 1971 to 2031 there would be an increase of elderly Canadians as shown in Table 40.

Rombout (1975a) also estimated that Canadians 65+ who had accounted for 35 per cent of all patient days (14.4 million) in 1971, would consume 42.5 per cent (29.5 million) in 2001. She stated that 166 three-hundred bed hospitals would have to be built to meet the demand!

1 The total fertility rate is the average number of births per woman throughout her reproductive years.

TABLE 39
Population 65+, numbers and proportions, Canada and Ontario 1971–2001

	1971		1976		1986		2001	
	No. (000)	%	No. (000)	%	No. (000)	%	No. (000)	%
Ontario	644.4	8.4	729.0	8.7	954.4	9.5	1,315.8	10.5
Canada	1,744.4	8.1	1,975.0	8.6	2,565.7	9.8	3,341.8	10.9

SOURCE: Clark and Collishaw (1974) based on Statistics Canada (1974)

TABLE 40
Numerical and percentage increase 65–74, 75–84, and 85+, Canada 1971–2031

	1971–2001		1971–2031	
Age group	Number	%	Number	%
65–74	78,900	72.6	2,495,800	231.7
75–84	600,600	113.4	1,483,500	280.1
85+	214,900	156.4	419,000	305.2
All ages	9,087,200	42.1	16,500,200	76.7

SOURCE: Rombout (1975a and b)

UP-TO-DATE PROJECTIONS (1976)

A new set of population projections for Canada and the provinces based on the 1976 Census has been developed by a team headed by Dr K.S. Gnanasakaran in the Population Estimates and Projections Division, Statistics Canada. We were given advanced access to this material, which has since been published (Statistics Canada, 1979). Canadian fertility rates in those projections varied again from 1.7 to 2.1, international migration varies from 50,000 to 100,000, and Canadian life expectancy at birth is projected to rise from 69.6 to 70.2 in men and from 76.9 to 78.3 in women. We were told by Dr Gnanasakaran that if we must take only one projection we should perhaps choose one of two low growth projections. Table 41 details the assumptions on which Projection 3 was based.

It was assumed that life expectancy would remain the same in 2001 and 2026 as in 1986 and that the total fertility rate and average net migration

TABLE 41
Life expectancy at birth, total fertility rate, and net migration underlying Projection 3 for Canada and Ontario 1976–91

	Life Expectancy at birth				Total fertility rate		Average net migration
	Male		Female				
	1976	1986	1976	1986	1976	1991	1976–91
Ontario	69.9	70.6	77.4	79.2	1.8	1.6	45,300
Canada	69.6	70.2	76.9	78.3	1.9	1.7	75,000

SOURCE: Statistics Canada (1979)

would remain the same in 2001 and 2026 as in 1991. As would all good demographers, Dr Gnanasakaran warned us that, whereas some assurance can be given for the 1986 Ontario projections, those for 2001 are less certain and the projections for 2026 even more tentative.

Based on this projection, Table 43 shows the absolute and relative sizes of various age groups in the Ontario population at three future dates. Note the only very slight difference from the earlier projections (shown in Table 39). For 1986 the 954,000 Ontarians 65+ has been raised to 956,700, and for 2001 the 1,315,800 has been lowered slightly to 1,292,600. There was also very little difference between the four different up-to-date projections for those 65+, either for Canada or for the provinces. For Canada, for example, between the four projections there was only a difference of some 25,000 persons aged 65+ by 2001. For Ontario, between the two low-growth projections there was only a difference of 144,000 people aged 65+ by 2026. We decided therefore to use a single projection, and Projection 3 seemed the best in light of the information available and the opinions of the experts we consulted.

Table 42 shows that the elderly of Ontario are expected to increase not only in absolute numbers in the short, intermediate, and long term, but also as a proportion of the entire population. This is especially apparent in 2026 when the large 'baby boom' cohort is moving into old age. Between 1976 and 2026 both the numbers and proportion of the elderly will more than double!

What is more alarming from the standpoint of health costs is the rapid increase in the oldest members of the group over 65 years. Table 43 illustrates these developments. From the bottom line of this table it is clear that,

TABLE 42
Age differences in the Ontario population, 1976 and selected future dates

	All ages	Aged 0–64		Aged 65+ Years	
Year	(000)	(000)	%	(000)	%
1976	8,264.5	7,525.6	91.1	738.9	8.9
1986	9,367.5	8,410.8	89.8	956.7	10.2
2001	10,753.6	9,461.0	88.0	1,292.6	12.0
2026	11,984.5	9,828.1	82.0	2,156.4	18.0

SOURCE: Projection 3, Statistics Canada (1979). See Table 40 for assumptions

TABLE 43
Age differences in the Ontario population and percentage increases over 1976 for 1986, 2001, and 2026

		1986		2001		2026	
Age group	1976 (000)	(000)	% Increase	(000)	% Increase	(000)	% Increase
0–19	2,881.8	2,733.3	−5.2	2,821.0	−2.1	2,719.1	−5.6
20–64	4,643.8	5,677.5	22.3	6,640.0	43.0	7,109.0	53.1
65–74	458.2	579.7	26.5	716.6	56.4	1,299.4	183.6
75–84	220.0	293.4	33.4	438.1	99.1	661.4	200.5
85+	60.7	83.6	37.7	137.9	127.2	195.6	222.1
Total	8,264.5	9,367.5	13.3	10,753.6	30.1	11,984.5	45.0
Under 65	7,525.6	8,410.8	11.8	9,461.0	25.7	9,828.1	30.1
Over 65	738.9	956.7	29.5	1,292.6	74.9	2,156.4	191.8

SOURCE: Projection 3, Statistics Canada (1979)

whereas persons over 65 years are not expected to double in number until well after 2001, the age group 75 to 84 years will nearly double by 2001. Persons over 85 years will reach this point much sooner, somewhere between 1986 and 2001. In every instance, percentage increases in size are greater for the aged than for the total population and certainly well ahead of the younger members. Indeed, the number of persons in the 0–19 class is expected to drop with declining fertility rates.

TABLE 44
Sex differences in persons 65 years and over, Ontario 1976 and selected future dates

	Males		Females		Total	
Year	(000)	%	(000)	%	(000)	%
1976	310.3	42.0	428.6	58.0	738.9	100.0
1986	388.7	40.6	568.0	59.4	956.7	100.0
2001	506.2	39.2	786.4	60.8	1,292.6	100.0

SOURCE: See Table 43

Changes in the sex structure of future elderly populations in Ontario will also affect the use of health services. Table 44 shows that aged persons are at present predominantly female. This percentage will increase as time goes on. The projection used here shows that the female proportion will reach over 60 per cent by 2001. This is because the difference in life expectancy between men and women is projected to increase until at least 1986 (see Table 41).

The expected changes in the structure and size of the aged population will bring increased demands on health care resources whether or not those are available in the same abundance as at present. If the expansion of health services keeps pace with the population changes, the future costs could be staggering.

DISCUSSION

Projections

This chapter has tried to predict what the elderly population of Ontario will be ten, twenty-five, and fifty years from 1976. We can be fairly confident about the projected estimates of absolute numbers of older people since they have already been born and will not be affected by fertility rates and probably very little by migration, at least until 2001.

Fertility however is exceedingly important in predicting the proportions of different Ontario age groups and, for example, the possibility of allocating resources from the young to the old. With regard to migration, who can really foresee, in light of the uncertain economic future and the increasing energy crisis, what will happen not only to immigration but to the emigration of Ontarians of all ages – particularly after 2001? As for mortality, it appears that the life expectancies of the middle-aged and elderly have increased over

the last few years, in which case our previous projections may well be too low.

In spite of all those uncertainties, we have chosen projections that we hope will be not too far wrong. If anything they are probably conservative.

Statistics Canada provided us with its new Projection 3, in advance of publication. This is a relatively low-growth projection based on an increase of life expectancy in Ontario males from 69.9 to 70.6 and in females from 77.4 to 79.2 between 1976 and 1986; a decrease in the total Ontario fertility rate from 1.8 to 1.6 between 1976 and 1991; and an average annual net migration into the province of 45,300 between 1976 and 1991. All these are then held constant to 2026.

According to that projection Ontario will have a population by 1986 of close to one million 65+, who will constitute over 10 per cent of the total population; by 2001 well over one million (12 per cent); and by 2026 over 2 million (18 per cent).

Even more alarming is the projected aging of the aged population. Whereas those 65–74 will double their numbers somewhere between 2001 and 2026, those 75–84 will double by 2001, and those 85+ well before 2001. These, of course, are the elderly with the greatest dependency needs and the ones who make the greatest demands on community resources, including institutions. Similarly, the aged population is projected to become progressively more female (at least until 2001). By the turn of the century at least three out of five elderly Ontarians 65+ are likely to be women. This is the sex that has been shown to put the most demands on health care resources.

Can we afford them?

This question is certainly not a new one (Schwenger, 1974, 1975). It has been said that Canada, including Ontario, is on the verge of 'geriatric crisis' and that we will not be able to afford these threatening hordes of sick old folk looming on the horizon. Before the actual costs are calculated and projected into the future, some discussion of the factors and issues involved would seem appropriate.

First of all we need to be reminded that the vast majority (at least 90 per cent) of Ontarians 65 years and over are living at home, and that most of them are in reasonably good health and are enjoying their retirement (Schwenger, 1977). Secondly, as has been pointed out, Ontario might be described as a young-old province in a young-old country. With about 9 per cent of our population 65+, we are somewhat younger than the United States and considerably younger than Great Britain (which have over 10 per

cent and 14 per cent respectively). In other words, Ontario is relatively new at the elderly game and will not have the high proportions already faced by many Western European countries for twenty-five to fifty years. These other countries however appear to be able to cope! In spite of their much heavier burden, several of them seem to be answering the needs of their elderly much better than we are. It does not appear to be breaking their banks and we can learn a great deal from them. Thirdly, one can take heart from the fact that the dependency ratio will probably improve at least until the turn of the century because of the continuing reduction in the number of children (Auerbach and Gerber, 1976). After that there will be more difficulty. The dependency ratio is predicted to rise when the baby boom begins to come into old age, but at least we have a few decades in which to plan. A logical solution in view of the smaller proportion of children would appear to be an increasing allocation of resources from the young to the old. Fourthly, the elderly are becoming wealthier, better educated, and more sophisticated. They have increasing expectations of good health and adequate health services and will probably also be healthier, particularly the young-old (Neugarten, 1975).

In spite of the confidence engendered by the above four facts, there are at least four others that give us pause when we judge our ability to deal with the future elderly. First is the evidence that the middle-old and particularly the old-old are increasing even faster than the young-old and also that the large proportions of elderly women will continue and may even increase. These are the groups with the greatest needs or demands for health care. Secondly, although other countries have been able to cope with their very high proportions of the aged, there is no reason to conclude that we will therefore be able to do so in the future if, as has been predicted, the economy does not grow fast enough or if it remains the same size or even shrinks. Thirdly it is not at all certain whether future parents will accept a reduction in services (health, education, and so on) for their fewer children, or that one young child (particularly a healthy one) is necessarily equivalent in cost to one elderly adult (particularly a sick one). And finally, the smaller families being produced by post-war baby boom adults bodes ill for the future care of this generation when it moves into old age shortly after the turn of the century. Not only will the children of the future elderly be fewer in number, but the daughters may be even more likely to be working. The children of the old-old at 65+ will be beginning to have problems themselves. For all of these reasons the children of the future will probably be less available and less well equipped to take as much responsibility for the housekeeping and personal

care of their elderly parents as sons and daughters have been taking up to now. This will put a much greater strain on community health and social services and will result in much greater costs. (Schwenger, 1977).

We shall now examine the present and future costs of the health care system itself and evaluate the efficiency of the system. Following this we will see if changes in the system could give us some rational and economically sound answers to our question whether we will be able to afford all those future elderly Ontarians.

5
Determinants of health care costs: a review of the literature

The high cost and utilization of health services by aged persons is a worldwide problem. In England over 50 per cent of all non-maternity and psychiatric hospital beds are occupied by persons 65 years and over, and nearly 14 per cent of the health and social services budget is spent on non-hospital programs used mainly by the elderly, including home nursing, residential homes, day care, home helps, and meals (DHSS, 1977). In South Africa as much as 38 per cent of the public health and welfare expenditures are devoted to the aged (Schapera, 1977), while in the United States persons 65 and above, who make up only 10 per cent of the population, take up 33 per cent of the hospital beds, consume 25 per cent of the drugs and require 29 per cent of health care expenditures (Rowe, 1977). In the United States in fiscal 1976, $34.9 billion was spent on personal health care for the aged. The per capita cost of health care for persons over 65 was $1,521.36 or almost three times the average for the general population (Gibson et al., 1977).

While it has long been recognized that older persons use more health services than others, it is only recently that the fiscal implications of that fact have been realized. In essence, the attention given to health care costs among the aged reflects three facts: because of their health, and social and economic status, the old are more dependent than younger people on the health and social welfare programs of the state; it is evident that the delivery of health care in most developed countries is inefficient; this becomes even more apparent when these systems have to serve older populations; and, since the aged are the fastest growing segment of the population of the western world, the present fiscal burden is expected to become even heavier. Those three facts loom large in the literature on the health care of the elderly.

DETERMINANTS OF HEALTH EXPENDITURES ON THE AGED

The determinants of health expenditures on aged persons are many and varied. In addition to physical disease, the use and cost of health services are influenced by the functional condition and mental status of the aged; their social, demographic, and economic circumstances; and such external factors as the supply, price, and organization of care services. The following sections review the research findings in each of those areas.

Health-related factors

Several sources have detailed the peculiarities of health states among geriatric populations (Adams, 1977; Bayne, 1965; Shanas, 1962 and 1974; Shanas and Maddox, 1976; Shanas et al., 1968; Van Zonneveld, 1961; WHO 1974). Shanas classifies the assessments of elderly people's health into two types: the medical and the functional. The medical, or geriatric, approach focuses on disease states and pathological processes discovered through clinical observation. The functional perspective emphasizes states of disability and limitations on the activities of normal living. Both of these aspects help to explain the demand for health services among the aged.

Medical assessments show that the typical pathology of the elderly is chronic and degenerative. Diseases of this type are not amenable to single specific treatments. They are not usually curable and they tend to last indefinitely. According to surveys and data on the utilization of health services, chronic diseases affect large proportions of the elderly both in institutions and in the community. Degenerative diseases of the heart and cardiovascular system are the chief causes of hospitalization among aged patients in Canada (Romeder and McWhinnie, 1974). Together with cancer they are also the prime causes of death among persons over 65 years (McWhinnie et al., 1976). In the community, the self-reported prevalence of chronic conditions rises with age. Data from the American Health Interview Survey (HIS) show that only 22.8 per cent of persons under 17 years suffer from some chronic condition. The proportion rises to 71.1 per cent for persons 45–64 years and to 85.6 per cent for persons 65 and over (Atchley, 1977).

Acute conditions also afflict the elderly but not as frequently as the young. Again, HIS data show that the incidence of acute ailments falls with age from a high of 3.6 per year for children under six to 1.4 annually in the years 45–64 (ibid.). Persons 65 and over reported only 1.1 acute conditions in the same period. However, acute illness in the aged generally lasts longer than in younger persons. Among people not in institutions, periods of restricted activity and bed disability following an acute sickness are two to three times as

long in the old as in the young (ibid.). Longer convalescent times account in part for the high proportion of patient days used by the aged in acute care hospitals. Rombout (1975a) states that 35 per cent of all care days produced in Canadian general and allied special hospitals in 1971 were used by patients over 65 years.

Another important medical characteristic of the aged is that they often have more than one pathology (Adams, 1977; WHO, 1974). Whereas, in earlier life symptoms of illness are usually explained by a single diagnosis, precise determinations of the cause of sickness in the elderly are often complicated by the presence of several morbid conditions. Disease in the elderly is also subject to insidious onset and altered response patterns. Ailments may overtake aged persons after slowly progressive symptomatic changes or even periods without symptoms. In addition, instabilities in body temperature, confusion, and insensitivity to pain and thirst often complicate both diagnosis and treatment (Adams, 1977). All of those factors slow the recovery from illness and lead to an increased use of health services by older people.

The second way of looking at health states in the aged is to assess their functional disability. That is important because limitations on activity cannot always be discerned from medical diagnoses. It has long been recognized, for example, that persons with the same medically determined impairments may have different degrees of activity restriction and dependency (Hanman, 1959). Hence functional assessments have been useful in predicting the costs of institutional care (Skinner and Yett, 1973) and the requirements for community services (Shanas, 1971 and 1974).

Among aged persons impaired mental capacity, lethargy, weakness, stiffness of the joints, and diminished postural control lead to increased functional disability (Adams, 1977). Data from the HIS show clear trends of increased restrictions on activity and bed disability with age (Kovar, 1977). Cross-national comparisons by Shanas (1971 and 1974) consistently show that about one-quarter of all aged persons living outside institutions suffer from some degree of incapacity ranging from bed disability to difficulties in walking. These studies suggest that in all the countries surveyed, the proportion of aged persons bedridden at home is nearly as great as or even greater than the percentage in institutions. Thus it is clear that increased dependency due to functional disability not only affects the demand for institutional health services among the aged but also for ambulatory and community care. Accidents leading to very high rates of hospitalization and mortality are also common among the elderly.

Mental status is another health-related variable affecting the demand for services by the elderly. Despite the conventional impression that mental ill-

ness increases with age, Busse and Pfeiffer (1969) conclude that the proportion of the old with mental illness is no greater than in other groups. However, there does appear to be a rise with age in the proportion with disabling mental conditions that reduce the ability to function socially. Riley and Foner (1968) deduce from their review of the literature that something under 10 per cent of all elderly Americans are afflicted by disabling mental illness. Older people, especially men, also have a very high suicide rate.

Butler and Lewis (1973) classify mental illness in old age into three groups: non-organic disorders of unknown origin, reversible organic mental disorders, and chronic organic mental disorders. Disabling mental conditions in old people are almost evenly distributed among those three types. Some indication of the serious cost implications of mental disability in later life is given by Wershow (1977), who estimates that if today's methods of treatment continue, by the year 2000, an amount equal to 80 per cent of current U.S. health care expenditures on the elderly will be required for the nursing-home care of patients suffering from organic brain syndrome. Obviously mental disability in old age is a critical factor in the demand for both institutional and community services.

Socio-demographic and economic factors

Not only health-related factors, but also social, demographic, and economic circumstances affect the demand for health care by the aged. Among the most important social factors is marital and family status. In a study of the aged in three industrialized countries, Shanas et al. (1968) discovered that elderly persons in institutions were more apt to be unmarried, widowed, or childless than older persons in the general population. This duplicates an earlier finding by Townsend (1963) in Great Britain. Treas (1977) observes that in the United States childless or low-fertility women have a 15 per cent higher chance of being institutionalized before 75 years than women who have three or more children. These studies underscore the influence of spouses, children, and other relatives on the demand for services by the old. Their presence in or near the home of old people permits care at home to be substituted for institutional services. It has also been suggested that elderly people with children may be healthier people (who consequently get married and have children).

Occupation and income have traditionally been viewed as critical determinants of the ability of aged persons to afford health care (Brownstone, 1966; Committee on Public Welfare Policy, 1959). Manga (1978) has emphasized the important relationship between income, age, and medical care utilization in Ontario. Since the introduction of universal public health insurance in

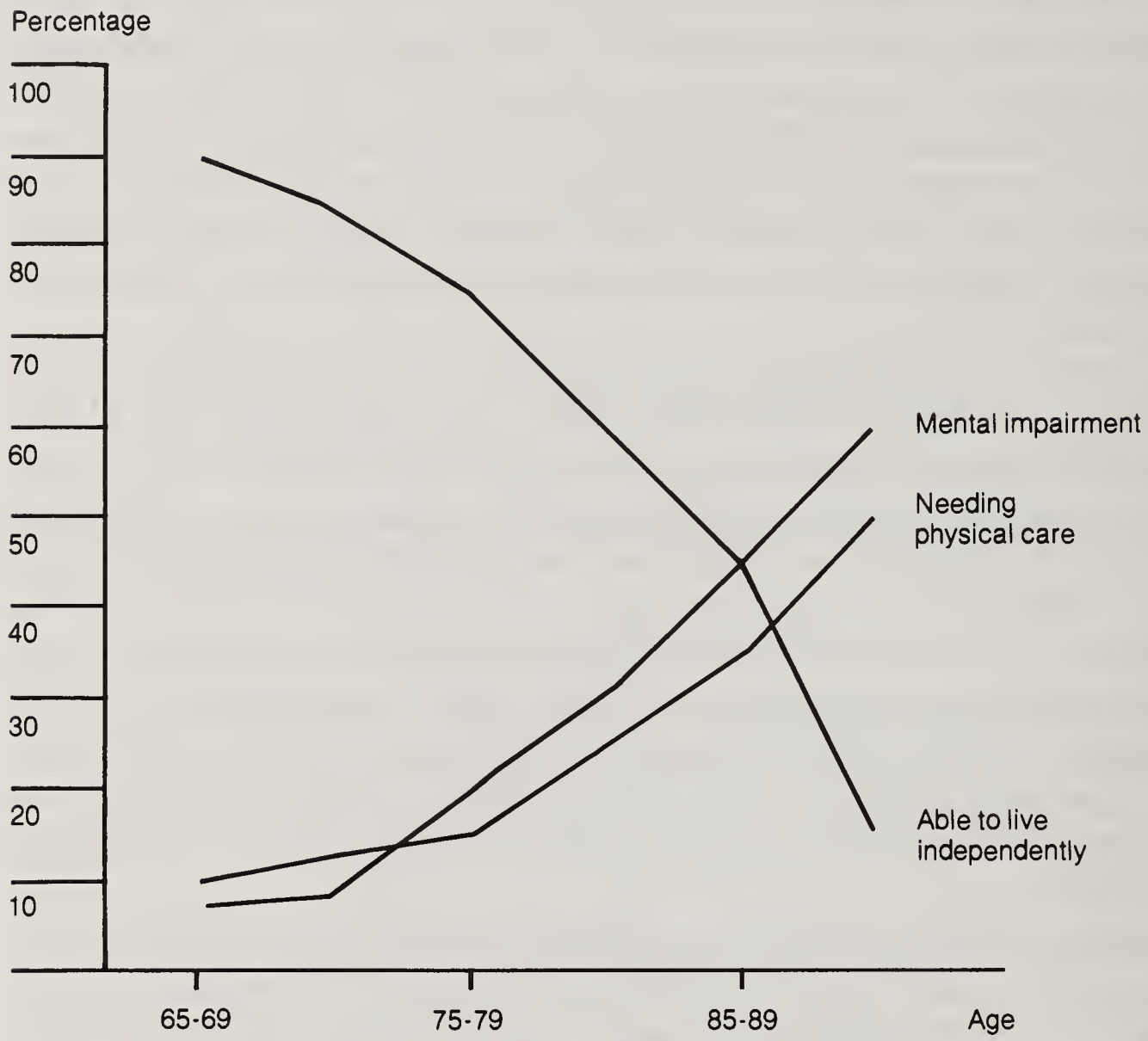
Canada, the aged enjoy comprehensive medical and hospital benefits. Nevertheless, the exclusion of eyeglasses, hearing aids, and prosthetics from insurance coverage is seen as a hardship for many aged persons (Working Group, 1976). Income also has an indirect bearing on health status because it affects nutrition, accommodation, and recreation. In 1976, the Canadian Council on Social Development reported that 54 per cent of retired Canadians needed the support of the federal government's Guaranteed Income Supplement (GIS) to raise their incomes to near the poverty line (CCSD, 1976). Retiring from work affects health in three ways: (1) it causes a reduction in income; (2) it diminishes opportunities for social interaction; and (3) it often leads to a reduction in physical activity. Particularly among men, retirement can have serious psychological implications if it is seen as a demotion and the loss of a role (Palmore, 1973).

It has been claimed that adequate housing is one means of keeping the aged out of institutions (Schwenger, 1977), and research by Carp (1977) suggests that improved housing may even be of direct benefit to health. Her studies give tentative evidence that the provision of appropriate shelter raises survival rates among the old. Canadian surveys of the aged have disclosed problems with accommodation including taxes, upkeep, and other expenses (Manitoba, 1975; Edmonton Welfare Council, 1964). Because disability is so common in old age, housing for the elderly needs to do more than simply provide shelter (CCSD, 1973). Purpose-built housing or hostels in which residents receive basic personal assistance have been recommended for the aged (Schwenger, 1977). However, there is little 'sheltered housing' in Canada (CCSD, 1973).

Education can affect people's use of health services for two reasons: (1) a well-educated person is more likely to understand the benefits of medical care, and (2) the more education people have, the more likely they are to have higher incomes, which in turn has a bearing on health. Of all age groups in the Canadian population, the elderly have the least formal education (Clark and Collishaw, 1975). Ethnic background can also influence demand since the perception of illness and the manner of seeking care vary from one culture to another. (Guttmacher and Elinson, 1971; Solon, 1966).

Sex also affects the use of health services by the elderly. Because women live longer, they are in the majority in old age. In most developed nations, their health is adversely affected by isolation and widowhood (WHO, 1974). The plight of elderly Canadian women, in particular their reduced social status and incomes, have been described by Collins (1978) and the Advisory Council on the Status of Women (1978). These circumstances have an inevitable effect on health status. Aged women have been found to complain

Figure 3
Decrease in ability to live independently with increasing age, related to physical and mental care needs



Source: R. Berg et al. (1970)

of more ill health than older men (Schwenger and Sayers, 1971a) and to report longer periods of restricted activity and bed disability (National Center for Health Statistics, 1977a). All of these circumstances lead to a greater use, both absolutely and per capita, of long-term care institutions by aged women. However, data from the United States reveal that this is not true of hospital

utilization, which is higher among older men (Kovar, 1977). Evidently, acute illnesses and exacerbations of chronic conditions are more common among males. Men also have higher rates of accidental mortality and suicide. Women, on the other hand, tend to suffer from disabling conditions, which, although they do not rapidly lead to death, do increase dependency.

It seems obvious that age itself is an essential factor in the demand for health services. Several studies, reports, and commentators have pointed out the variable health status among groups beyond 65 years (Kraus et al., 1977a; Schwenger, 1975 and 1977; Schwenger and Sayers, 1971a; Working Group, 1976; and Anderson, 1977; Kamerman, 1976; Kovar, 1977; WHO, 1974). Manga (1978) has pointed out the positive relationship between age and utilization of medical care. Although these sources identify various high-risk age groups in later years, there is a consensus that older persons beyond 75 years, and particularly above 85, are deserving of special concern. Figure 3, based on a survey of needs among non-institutionalized elderly persons in Rochester, New York, shows the marked increase in physical and mental impairment and the rapid decline in independence that come with added years. Those trends all become more precipitous at about 75 years.

The use of institutions also rises among older age groups. Patient days per person in Canadian general hospitals double between the ages of 65 and 75 and increase four-fold and more between 65 and 85. (Rombout, 1975a). In a recent study in the area of Kingston, Ontario (Kraus et al., 1977a), it was discovered that 39 per cent of the population over 85 years lived in long-stay institutions. What is particularly alarming is that the older segments of the aged population are growing faster than the elderly group as a whole. This development could lead to increasing demands by the old on health care resources (Schwenger, 1975; Auerbach and Gerber, 1976). Consequently, the age structure of the elderly population is one of the most important elements in any assessment of either present or future expenditures for health services.

Health system factors

Health system factors are external to elderly persons themselves but they affect the manner in which the demand for health care is expressed. One of the most important of such factors is the organization of health care delivery. A number of Canadian studies have investigated this issue both nationally (Lalonde, 1974; Community Health Centre Project, 1973) and in Ontario (Ontario Health Planning Task Force, 1974; OMA, 1973). These analyses have concurred on weaknesses in the present organization of services such as an overemphasis on acute care, the predominance of the medical model,

difficulties of access to health care, and a lack of co-ordination between health programs and between health and social elements of the care system.

Although these problems affect all age groups, they have a more severe impact on the way the aged utilize health services. Since the ill health of the elderly is primarily manifested as chronic and disabling states of dependency, the acute care medical orientation of the health system is inadequate and inefficient in meeting the needs of the elderly (Manherz, 1974; Novick, 1964; Engelmohr, 1977). Access to health providers and other resources is an important issue to the aged because of their limited mobility. The decline in housecalls by doctors has serious repercussions on the old, especially the housebound and bedridden (Mims et al., 1977; Sandler, 1977). Co-ordination of health services and other social services is a crucial matter to the elderly since they have needs in many interrelated areas (Bayne and Caygill, 1977; Working Group, 1976). The result of a failure to co-ordinate those services is the wrong use of services, especially institutions (Cape et al., 1977; Kraus et al., 1976).

There have been various suggestions for organizing services to the elderly more efficiently. The 'geriatric campus' concept has been developed in Ontario at the Baycrest Centre for Geriatric Care in Toronto (Ruth and Rudin, 1977). This model unites the administration of different levels of care in one location, thereby obviating the need to move people hastily or long distances when their needs change. Placement co-ordination services like the Hamilton-Wentworth Assessment and Placement Service have also been proposed as a better way of matching resources with needs (Bayne and Caygill, 1977).

The attitudes and qualifications of providers can also affect the use and costs of services. Physicians have been criticized for their negative attitude toward aged patients, which raises psychological barriers to compliance with medical treatment (Mead, 1977; Reichel, 1973). The doctors' unfavourable attitudes are attributed to medical education, which traditionally has not emphasized the care of the elderly (Bayne, 1977; Reichel, 1973). It is also claimed that physicians have too little understanding of the specifics of caring for aged persons and treating their many and interacting diseases (Dorsey, 1974).

The price of health care is an obvious determinant of the demand for services, especially when there are alternatives. In Ontario, a prime example is the choice between chronic hospitals and nursing homes. Until recently the former was completely covered by public insurance while residents of the latter were assessed a co-insurance fee. This price difference shifted the

demand away from nursing homes to chronic hospitals (Interministry Committee, 1975; Joint Advisory Committee, 1977; OWC, 1977). Various groups investigating this issue therefore recommended that a fee be charged to chronic patients in order that the demand for chronic care might be related to medical need rather than to prices and in March 1979 such a regulation came into effect.

In economic theory supply and demand are expected to act independently to strike a proper balance between the goods society produces and its willingness to pay for them, but this precept is violated in the health field. Evans (1974) is but one of many authors who emphasize the absence of interdependence of supply and demand in this particular market. In Canada most decisions about the supply of health services are made by governments in response to the demands they believe the public is making. Analytical techniques have been developed to help governments choose the right levels of supply. Cost-benefit analysis, for example, is used to estimate the gain or benefit that will be enjoyed by society as a result of a particular course of action (Crystal and Brewster, 1966). This approach is vitiated, however, by conceptual and technical problems of measurement. For example, lost productivity due to illness is often entered in the cost-benefit scale as a sizeable indirect expense that society must pay in the absence of programs to eradicate illness (Rice, 1966). This has the effect of reducing the estimated benefit of programs to the elderly because older persons are usually retired (Migue and Belanger, 1974).

Because of the practical difficulties of measuring social costs and benefits, cost-benefit decisions are usually made by elected officials who explicitly or implicitly assess the relative social worth of elderly lives. Historically, North American governments have acted on the assumption that programs that sustain the aged are worthwhile and affordable. In the health field this has resulted in a generous supply of services, particularly of the institutional and medical variety. This orientation has been criticized, not on cost-benefit grounds, but on the basis of efficiency and humanity. The rates of institutionalization among aged Canadians have been shown to be excessive in comparison with other countries. Schwenger (1974) reported that at any given time slightly over 9 per cent of the aged residents of Ontario could be found in institutions.

This high rate of institutional care reflects the wrong placement of many old people. In a study of long-term care facilities in the area of London Ontario, Cape et al. (1977) found that as many as one-half of the patients in nursing homes and chronic hospitals would have been better cared for else-

where. Kraus et al. (1976) made similar discoveries among a group of applicants to long-term care institutions near Kingston, Ontario. Nearly one-third of them were judged to be suitable for some non-institutional setting.

Findings of this sort lead to questions about the efficiency of health services to the aged and are a compelling argument for testing other ways of delivering services. Ruchlin and Levey (1975) have classified the alternatives into 'low-skilled/high-skilled labor' and 'capital/capital' substitutions. The first uses lower-cost personnel, such as nurse practitioners instead of physicians. These substitutions have received favourable attention in the literature especially in service to elderly people with disabling conditions that require frequent monitoring but little diagnostic effort (German, 1975; Kane et al., 1974; OCH, 1975; Reichel, 1973).

The literature is full of references to the second type of alternative service delivery,[1] which is known as capital/capital substitution because it replaces institutional capital with community programs. Among these programs are day hospitals offering daily therapeutic services to aged persons who return to their own homes at night (Fisher, 1974; Ross, 1976), and foster homes that substitute for institutional care by providing supportive environments to elderly persons unable to live on their own (Kraus et al., 1977b; Sherman and Newman, 1977). Undoubtedly the most popular alternative to institutions is 'home care,' a service that provides nursing, physiotherapy, homemaker services, and so on to older persons living in their own homes (Bell, 1973; Brickner et al., 1976; Kraus and Armstrong, 1977; Trager, 1971 and 1975). Trager (1975) has enumerated some of the advantages of home care: it focuses on individual need; it makes therapeutic use of the personal environment; it uses paraprofessionals under professional supervision as a means of maintaining continuity in personal contacts; and by increasing the range of options it prevents the wrong kind of care being imposed for want of anything better. In short, home care as well as other alternatives to the traditional methods of delivery have been espoused as more humane and effective ways of fulfilling the needs of the aged. Beyond this, they have been roundly acclaimed as less expensive than institutional care. The latter point has not been conclusively settled, and deficiencies remain in much of the research on the economic aspects of alternative means of delivery. Doherty and Hicks (1977) note that many cost evaluations of such programs as home care concentrate almost entirely on cost criteria in comparing alternatives with institutional care. Without controlling for the different objectives and

1 For extensive bibliographies on alternatives to institutional care of the elderly see Garen et al. (1976) and Ketcham et al. (1974).

types of patient across these levels, such studies are virtually meaningless. A second inadequacy of much of the research is that it fails to count all the costs of non-institutional care. In an earlier article, Doherty and Hicks (1975) point out the likelihood of distortion of cost comparisons when only primary expenses for medical and other professional services are taken into account. In addition to those, secondary services (such as rent, food, clothing, and so on) required to support and complement those of the primary program should be included.

A significant cost in this regard is the contribution of family and friends to the care of an aged person at home. Tertiary costs for food, housing, and recreation should also be calculated. In this respect, the findings of one rigorously designed evaluation of home care costs in St. John's, Newfoundland are relevant. In that study, Gerson and Hughes (1976) controlled for differences in secondary and tertiary costs between hospitalized and home care patients. As a result, the economic advantage of running a home-care program was found to be negligible when compared to hospital operating costs for a similar group of patients.

Aside from these design problems, Lasdon and Sigmann (1977) point out that evaluations are complicated when applied to chronic, elderly patients because of the difficulty of specifying the results of the programs in measurable terms. It is also difficult to measure the effectiveness of different kinds of care because of the long time required to follow the progress of chronic diseases (Weiler, 1974). Moreover, the scarcity of established alternatives to institutions further undermines the efforts to demonstrate their value (Weiler, 1974 and 1977).

The last point has been discussed in some of the literature from jurisdictions where alternatives to institutional care are well established. In this regard, the British studies might be helpful if they were more conclusive. Wager (1972) compared the costs of delivering residential and home-care services to the aged in Essex, England. Accounting for the secondary and tertiary costs of care, he concluded that, where individuals were living in larger dwellings than they needed, they could have often been cared for less expensively in an institution. Other than that Wager does demonstrate the economic benefits of home-delivered services. Another British study by Rickard (1974) discovered that nursing costs were three to six times higher in a chronic hospital than in the home, depending on how often persons at home needed a nurse. Rickard is quick to point out that the average nursing cost in hospitals may be inflated by a proportion of patients who are very sick and highly dependent. Critical of this very point, Opit (1977) did a study of the costs of caring for a group of severely handicapped patients in their

homes and showed that about 20 per cent of his sample were more expensive to look after at home than in a geriatric hospital.

In conclusion, there is not yet enough evidence to show which are less expensive – institutions for the elderly or the alternatives. Accordingly some commentators hasten to remind us that institutions still have their place (Hammerman, 1974; Shore, 1974). While this is undoubtedly correct, it is not clear what that place is or what the role of non-institutional services is. Referring to the situation in the United States, Morris (1974) rightly concludes that one of the most fundamental questions about alternatives has not been answered: what are their objectives and whom are they supposed to serve? The same question applies to non-institutional services being developed in Ontario, and it has not been answered in studies evaluating these programs. (See for example OMH, 1977b.) Until such issues are resolved, assessments of the cost and effectiveness of alternatives will lack the criteria by which to measure their success.

FUTURE DEMAND FOR HEALTH SERVICES BY THE AGED

The health care that the aged will need in the future will be influenced by the socio-economic, demographic, and health system factors outlined in the previous section. Trends in such factors as the organization of health care and the supply of services are not easy to forecast because they are subject to social fashions, political demands, and economic circumstances. Denton and Spencer (1975) project the costs of health care to selected dates using a theoretical model of the economy and population of Canada. Their results show that despite an aging of the population, the economy will be able to sustain the present rates of utilization in hospital and medical care. However, this optimistic projection was based on patterns of investment, production, and employment that have exhibited much instability since then.

The social and economic status of future elderly populations has also received some attention. Palmore (1976) remarks that as time goes on the aged will become richer and more highly educated and will have higher status occupations. All of those characteristics are associated with increased demands on health services and correspondingly higher expenditures. As shown earlier, the family status of the old is an extremely important factor in keeping the infirm aged in the community. Some observers have pointed out that smaller families and the increased mobility of sons and daughters will reduce the number of family caretakers and diminish their invaluable social, psychological, and economic support (Treas, 1977; Anderson, 1977).

Aside from the trend to smaller families, Anderson (1977) considers the popular movement for more independence among women and the apparent

decrease in the social value of service and duty as cause for concern. Again, those developments portend growing dependence by older persons on public support, including health services. Whether the support will be there is uncertain. Anderson (ibid.) speculates that as the demand for resources mounts, there may well be a weakening of the taboo against euthanasia and a spread of 'warehouses' for sick elderly people. Havighurst (1977) more sanguinely argues that as children become less numerous, the resources now devoted to their education can be shifted to the aged. He also sees an increased use of volunteers as a means of counteracting burgeoning future demands on social services.

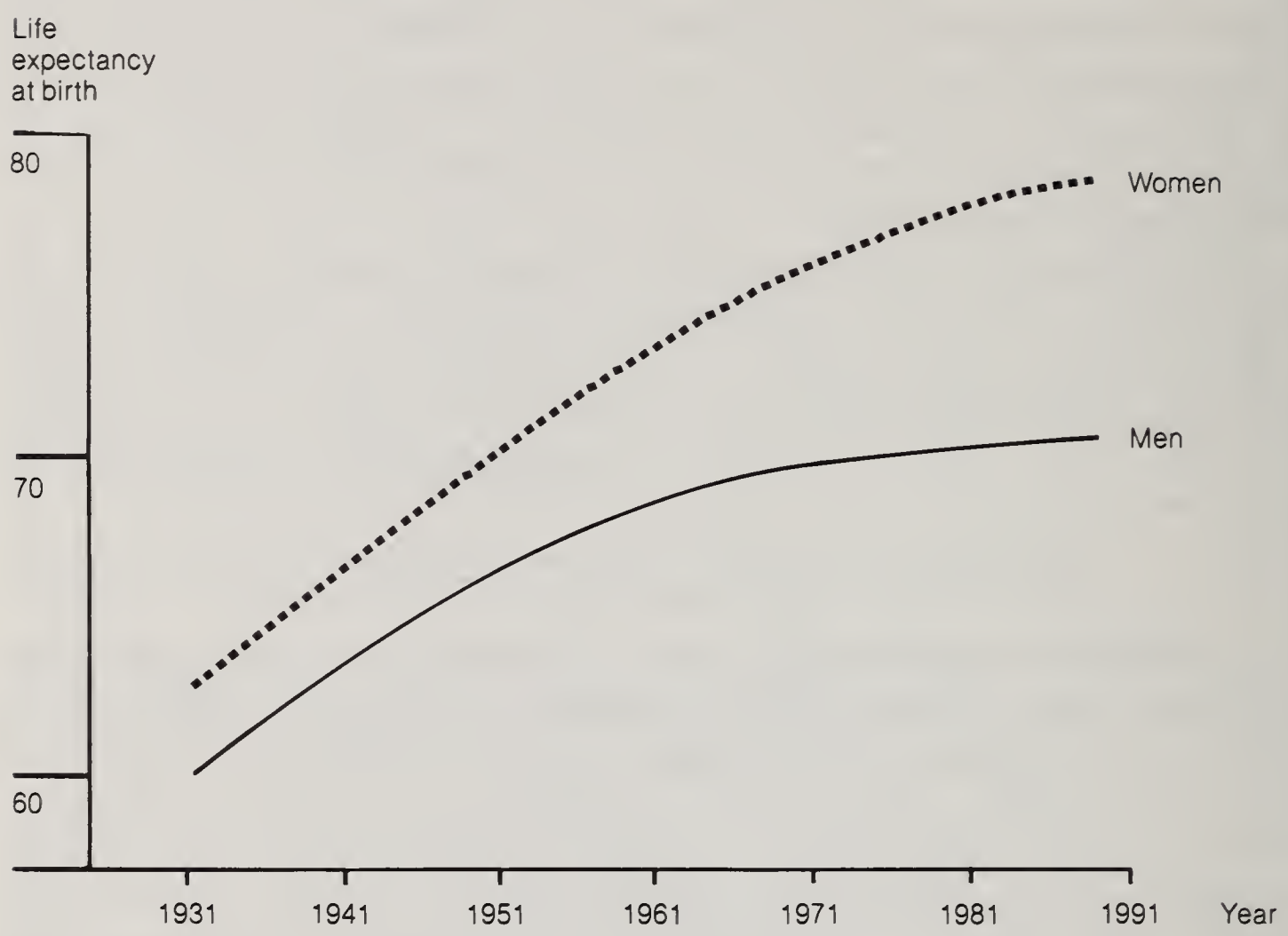
The health status of the elderly will continue to be a fundamental determinant of their service needs. Although some reputable experts like Comfort (1974) claim that science is capable of slowing the aging process, the more prevalent view is that the human lifespan is not likely to be extended (Hayflick, 1974). Barring unforeseen medical advances, the elderly of the future will probably live with, and die from, the same diseases that afflict the elderly of today. Even if mortality rates can be reduced among the aged, there is no assurance that longer lives will be healthier. Indeed, a lengthening of the lifespan might actually increase the burden that older people place on the care system (Boulet, 1978). Although it is true that the lifespan is not likely to be extended in the immediate future, Canadian life expectancy at birth, on the other hand, has been increasing in both sexes, as shown in Figure 4. In fact, life expectancy in both sexes and at all ages has increased markedly, and the expectancy curves will probably be greater than expected for the 1970s (Myers, 1978). This will have a considerable influence on projections of the numbers of our elderly population.

Mortality trends are one of three important variables affecting the most elementary determinant of future health services requirements – population growth. The other two are fertility and migration. Although present birth rates will not alter the size of aged populations for a long time, they will have an effect on the size of this group relative to the total population. In recent years fertility rates have been dropping and they are expected to remain below replacement levels in the future. Immigration is affected by the state of the economy and is controlled by federal legislation. Various growth forecasts predict an addition of 50,000 to 100,000 immigrants a year (Auerbach and Gerber, 1976), some of whom will be coming to Ontario.

SUMMARY

This chapter has summarized the principal cost determinants of health and other services to the aged and has reviewed the literature on the subject.

Figure 4
Life expectancy at birth by sex, Canada 1931-87



Source: Clark and Collishaw (1975)

Concern for health care costs among the aged is due to three factors: (1) because of the extent and complexity of their social, economic, and health needs, the old are very dependent on the social and health services provided by the state; (2) it is evident that the delivery of health care in most industrial countries is inefficient, especially in the provision of services to older people; and (3) since the aged are the fastest growing segment of the population, the present fiscal pressures are expected to be even further exacerbated in future.

Although all the factors discussed above have a significant impact on expenditures, their relative importance is not clear. Ruchlin and Levey (1975) note that there has been little research that attempts to sort out (and priorize) the many reasons older people demand long-term care services.

The same could be said of services to the aged in general, unlike research on acute care, where multivariate statistical analysis has long been used to assess the cost determinants in short-term care (Rosenthal, 1964). The need for economic evaluations is frequently pointed out in the gerontological literature. However, Knapp (1978) accurately observes that the response from economists has been disappointing. The lack of economic analyses of programs to the aged is a hindrance to policy-making. Without such examinations the problems remain hidden and the solutions uncertain.

This report originates from a recognition of two facts: (1) cost is a crucial variable in evaluating services to the elderly, and (2) too little attention has been paid to the economic aspect of delivering care to this group. In view of the lack of research into those issues, we decided to make our report general and descriptive. As suggested by Bennett et al. (1977), evaluation might profitably begin with a simple investigation of how much money the system spends and where it spends it. We believed this would be a valuable undertaking that had not yet been done in Ontario. Hence, a major task of this study has been an assessment of the present utilization and costs of institutional services and certain other major health services to aged persons.

6
Costs of health services to the elderly

INSTITUTIONAL HEALTH SERVICES TO THE ELDERLY

In Chapter 2 we described five types of institutional services to elderly Ontarians: active treatment, long-term, extended, residential, and psychiatric care. Since the quality and availability of information on these types varies a great deal, our expenditure estimates have to be tailored to the data base describing each program. The detailed methodologies that we used to estimate the cost and utilization of institutional health services to the aged are presented in Appendix A and elaborated elsewhere (Gross, 1978). This section will summarize the basic methods.

Costs or expenditures are the product of two variables: price and quantity. These variables are easy to specify in industries in which the production units are uniform, each requiring the same basic resource inputs. The health care industry is atypical in this regard since its 'products' can vary widely from one care episode to the next. As the least common denominator among the products of institutional services, the 'day of care' is frequently used as the production unit, and its price or the 'per diem rate' is derived by dividing operating costs by the number of days provided. The advantage of this measure is clear: since all patients are cared for over some number of days, comparisons between patients can be made on this basis. Its disadvantage is perhaps equally obvious: because one day of care, depending on the patient and the institution, may require more or fewer resource inputs than the next, its real value or price is not uniform. For example, important price differences can be caused by the age of patients.

Except in the case of active treatment care, we have ignored variations in price or per diem rates that are due to age because we could not find any data to differentiate costs in this way (see Appendix A). The use of unadjusted per

diem costs in long term, extended, residential, and psychiatric types may introduce some bias, but this is assumed to be minimal for two reasons. First, variations in patient status and average daily resource consumption are not as great as in active care. That is, patients in any one of these types are more homogeneous than patients under active care. Second, most persons at the long term, extended, and residential levels are over 65 years. Consequently, the bulk of the program costs will be allocated to the old in any event. With regard to psychiatric care, the converse of this argument obtains: most patients are not elderly, and the amount apportioned to the old will not be significantly affected by adjustments to the average per diem rate.

Active treatment care, however, deserves more thorough analysis for several reasons. It is the most expensive form of institutional care; from a cost and age standpoint, it contains the most heterogeneous group of patients; lastly, because active care is delivered from the same general hospital facilities that provide chronic, psychiatric, research, education, and outpatient services, it is seldom isolated for the special attention it deserves. One of the main tasks facing this study, therefore, was to separate the costs of active treatment care from the other expenses of general hospitals. This was done by an accounting method known as 'step-down cost analysis' (see Appendix A). This method assigns to each hospital service all the overhead and auxiliary expenses that it generates. In this way, active treatment costs have been segregated from the expenses of other general hospital programs.

Once active treatment costs are identified in this way, they can be allocated between old and younger patients. As suggested earlier, no age differences are assumed in the per diem rates of long-term, extended, residential, and psychiatric care. Consequently costs can be ascribed to the elderly simply by multiplying the number of days of care used by this group by the per diem rates in those institutions. There is some evidence from the literature to suggest that most active treatment services to the elderly are more expensive than to the young, even on a per diem basis. (AHS, 1967; Filerman, n.d.; CASH, 1966; Ingram and Colman, 1967). Such information can be used to adjust the average per diem rate to reflect the real costs of providing a day of active treatment care to persons over 65. This approach has been followed in this study and is detailed in Appendix A.

Table 45 presents the complete age and sex distribution of institutional care days per thousand population. It also gives the 'daily rate,' which is calculated by dividing the annual number of days per capita by 366 to estimate a daily average. This fraction is then converted to a percentage denoting the proportion of Ontario residents in each age group who might be found in each kind of institution on any given day in 1976. It is worth noting

TABLE 45
Age and sex distribution of days per thousand population by types of institutional care, Ontario 1976

Age	Male	Female	Total	Daily rate (%)
Active treatment care				
0–19	394	409	401	0.11
20–64	985	1,460	1,224	0.33
65–74	4,182	3,383	3,744	1.02
75–84	6,666	5,613	6,015	1.64
85+	8,349	7,420	7,716	2.11
Total	1,085	1,416	1,252	0.34
65+	5,115	4,480	4,746	1.30
Long-term care				
0–19	36	37	36	0.01
20–64	187	196	192	0.05
65–74	1,506	1,699	1,612	0.44
75–84	4,050	4,966	4,634	1.27
85+	7,989	10,743	9,865	2.70
Total	315	494	406	0.11
65+	2,599	3,618	3,190	0.87
Extended care				
0–19	32	73	52	0.01
20–64	291	469	356	0.10
65–74	3,507	5,738	4,730	1.29
75–84	16,467	23,241	20,654	5.64
85+	71,082	82,066	78,566	21.47
Total	998	2,206	1,607	0.44
65+	11,232	18,660	15,540	4.25
Residential care				
0–19	3	7	5	0.00
20–64	108	119	113	0.03
65–74	2,172	2,760	2,495	0.68
75–84	8,014	11,013	9,867	2.70
85+	28,911	33,407	31,974	8.74
Total	473	926	702	0.19
65+	5,422	8,337	7,113	1.94
Psychiatric care				
0–19	41	37	40	0.01
20–64	421	301	360	0.10
65–74	1,001	601	781	0.21
75–84	857	635	720	0.20

TABLE 45 (continued)

Age	Male	Female	Total	Daily rate (%)
85+	812	363	506	0.14
Total	325	241	282	0.08
65+	950	589	741	0.20
All types of institutional care				
0–19	506	563	534	0.14
20–64	1,992	2,545	2,245	0.61
65–74	12,368	14,181	13,362	3.64
75–84	36,054	45,498	41,890	11.45
85+	117,143	133,999	128,627	35.16
Total	3,196	5,283	4,249	1.16
65+	25,318	35,684	31,330	8.56

SOURCE: Gross (1978)

the heavy burden that elderly persons place on the institutions, particularly in the extended care and residential care categories. In 1976, every 1,000 elderly Ontarians required over 31,000 days of care. Stated another way, aged persons spent on average 31.3 days in institutions during 1976. On any given day in that year, 8.56 per cent of the population 65 and over was in an institution. Also striking is the escalation of those rates with increasing age. The daily rate ranges from 0.14 per cent for persons 0–19 years to 35.16 per cent for the old-old. This means that at any moment over a third of the Ontario population beyond 85 years is in some kind of institution.

The heavy use of institutional services by the aged has enormous fiscal implications. Table 46 reviews the results of the cost apportionments. Of the $2,113.3 million spent on institutional services in the province in 1976, 46 per cent was required by persons 65 and over. The population under 65 used an average of $151.44 per capita in that period while annual expenditures on each elderly person in the province averaged $1,307.60. That rate is about five times the per capita figure for the general population and 8.6 times that for the young.

NON-INSTITUTIONAL HEALTH SERVICES TO THE ELDERLY

This section estimates the cost of health care to the elderly in four non-institutional programs: physician, dental, out-patient services, and drugs.

TABLE 46
Summary of institutional expenditures to elderly and non-elderly inpatients and residents, Ontario 1976

Type of care	All ages expenditures ($ million)	Cost per capita ($)	0–64 Years expenditure ($ million)	Cost per capita ($)	65+ Years expenditure ($ million)	Cost per capita ($)
Active treatment	1,294.8	156.67	852.8	113.32	442.0	598.17
Long-term	210.5	25.47	68.2	9.06	142.3	192.58
Extended	301.6	36.49	38.6	5.13	263.0	355.92
Residential	89.7	10.85	8.5	1.13	81.2	109.89
Psychiatric	216.7	26.22	171.6	22.80	45.1	51.04
Total	2,113.3	255.70	1,139.7	151.44	973.6	1,307.60

SOURCE: Gross (1978)

Together with institutional services, those are the most expensive elements of personal health care. We have excluded public health, community, and co-ordinating services because, owing to a lack of fiscal or age-specific utilization data, the costs in those programs are difficult to allocate. Indeed, with the exception of physician costs, only a crude allocation of the non-institutional expenses examined here has been possible. We have made tentative apportionments of dental, drug and out-patient costs in order to make later comparisons of age differences in personal health spending between Ontario and the United States. If nothing else, this exercise should demonstrate the need for better utilization data for planning and evaluating non-institutional programs to the elderly.

Physician services

According to the Central Statistical Services of the Ontario Ministry of Treasury, Economics and Intergovernmental Affairs (TEIGA), total spending on physicians in fiscal 1975 amounted to $755 million. Of this, $693 million, or 92 per cent, was paid by the Ontario Health Insurance Plan (OHIP). Data on the age and sex distribution of physician costs reimbursed by OHIP are obtainable from the Ontario Ministry of Health. No such information exists, however, for the 8 per cent of medical expenditures not covered by the plan. Since most of those costs are attributable to physicians working in private industry, the patients receiving their services are not typical of the general population. In fact, those physicians probably see few elderly patients,

TABLE 47
Age and sex distribution of physician costs reimbursed by OHIP, 1976

Age	Males ($ million)	Females ($ million)	Total ($ million)	Percentage
0–19	75.8	76.4	152.2	20.74
20–64	175.3	290.1	465.4	63.41
65–74	31.2	35.9	67.1	9.14
75–84	15.2	22.4	37.6	5.12
85+	4.0	7.7	11.7	1.59
Total	301.5	432.5	734.0	100.00
65+	50.4	66.0	116.4	15.85

SOURCE: Taken from data supplied by OMH, Data Development and Education Branch

whereas a significant portion of OHIP costs are due to the aged. For that reason we decided to exclude from this examination all physician costs that are not reimbursed by OHIP.

OHIP data on medical care costs are recorded by fiscal year. Consequently, we made our expenditure estimates for 1976 by adding one-quarter of fiscal 1975 costs to three-quarters of fiscal 1976 expenditures. Table 47 shows the age and sex breakdown of the resulting estimate. It can be seen that the aged accounted for 15.85 per cent of all OHIP expenses in 1976 even though they represent only 8.9 per cent of the Ontario population.

This difference is more pronounced in Table 48, which presents per capita age and sex distributions of medical care costs. Persons 65 and above required $157.53 on average, or about three times the expenditures attributable to younger persons 0–19 years and half again as much as the group in the middle years (20–64 years). It should be noted that although those per capita age differences are large, they are not as great as in institutions. (see Tables 45 and 46). Table 47 also shows that per capita spending on physician services increases with age for both men and women. Women create more costs in the years before old age, but after 65 years per capita expenses for men are higher than for women.

Out-patient services

Outpatient services (OPS) are provided by hospital emergency departments, general and special clinics, surgical day care, and other ambulatory services

TABLE 48
Per capita age and sex distribution of physician costs reimbursed by OHIP, 1976

Age	Males ($)	Females ($)	Total ($)
0–19	51.27	54.33	52.81
20–64	75.86	124.35	100.22
65–74	150.80	142.86	146.44
75–85	180.95	164.82	170.91
85+	206.19	185.98	192.75
Total	73.59	103.78	88.81
65+	162.42	153.99	157.53

SOURCE: See source to Table 47.

(all in general hospitals). Hospital overhead, supply, diagnostic, and therapeutic departments are also included in the total outpatient expenses. It has been shown elsewhere (Gross, 1978) that $255.5 million, or about 14 per cent of all general hospital costs, can be ascribed to outpatient activity.

Unfortunately, we could not find any age-specific utilization data that would have enabled us to make cost allocations between the old and the young in outpatient service categories. Instead we have divided outpatient costs between the ages on the basis of utilization differences in medical care on the assumption that the utilization distribution of hospital outpatient services is similar to that of physicians. On the basis of the age data for physician costs in Table 48, we assigned 15.85 per cent of outpatient expenses, or $40.5 million, to the aged and the remaining $215.0 million to persons under 65.

Dental services

The allocation of costs for dental services is complicated for two reasons: total expenses are not known for the 1976 calendar year, and the age distribution of expenses is uncertain. To a certain extent, however, both complications can be remedied. Central Statistical Services of TEIGA report gross earnings of dentists at $257.0 million in fiscal 1975; figures for fiscal 1976 were not available by 1978. If, however, on the recommendation of the same source, an arbitrary inflation rate of 8 per cent is assumed, the $257.0 million should be adjusted upwards by 6 per cent to compensate for the last three-quarters of calendar 1976, which are not included in fiscal 1975. This adjust-

ment results in an estimate for dental services of $272.4 million in calendar 1976.

The second issue is the allocation of dental costs between the old and the young. Although surveys have been conducted on the dental health and behaviour of the aged in certain parts of Ontario (Banting, 1971 and 1972), they do not report the relative rates of utilization, which would permit comparisons between persons above and below 65. The *Dental Report* (Department of National Health and Welfare, 1977) from the recent Nutrition Canada Survey shows that 34.4 per cent of persons over 60 years of age in Ontario had visited a dentist within a year of being questioned. The proportion for the population three years and older was 60.8 per cent. While those figures are for usage above and below age 60, Josie (1973) reports per capita rates for persons above and below 65 years for selected community samples in Saskatchewan, Alberta, and British Columbia. His data show that in a one-month period the elderly visit the dentist at a rate of 0.3 to 0.6 times the general average. This range falls somewhat below the rate calculated with data from the American Health Interview Survey (National Centre for Health Statistics, 1977a), which show that in 1976 persons 65 and above made about 0.75 times as many dental visits per capita as the average.

All of those studies reveal that older persons visit the dentist less often than the general population and much less often than the non-aged. In view of the comprehensiveness of the American survey and the likelihood that relative age variation in utilization is not great between Canada and the United States, we have used Josie's maximum rate of 0.6 to allocate dental costs. This is done as follows. On an unadjusted average, the elderly of Ontario would account for 8.94 per cent of the $270.3 million in dental expenses in 1976. Since it is assumed that they actually use services at a rate of six-tenths this average, the straight allocation is multiplied by 0.6. Thus, dental costs to the aged in Ontario are estimated at $14.5 million (0.0894 × 0.6 × $270.3 million) in 1976. On a per capita basis, the elderly spent an estimated $19.62 in 1976 on dental work while the non-aged, to whom are ascribed the remaining $225.8 million, expended $33.99.

Drugs

As with dental and outpatient costs, the allocation of drug expenditures is necessarily somewhat speculative. According to the Central Statistical Services of TEIGA, $245.0 million was paid out in fiscal 1975 on prescription drugs. Non-prescription drugs cost Ontarians $244.1 million in the same year. By adjusting upwards by the selected rate of 6 per cent, we estimated

the expenditures on prescription and non-prescription drugs respectively at $259.7 and $258.7 million in calendar 1976.

Information supplied by the Drugs and Therapeutics Branch of the OMH is used in the allocation of prescribed drugs. Under the province's Drug Benefit Plan, elderly residents are entitled to full payment for pharmaceuticals purchased on a physician's prescription. Payments to the elderly under the plan amounted to $34.3 million in fiscal 1975 and $57.6 million in fiscal 1976. The large difference in claims between these two periods is explained by, among other factors, the abridged eligibility conditions in force in fiscal 1975. Until 1 August 1975, only aged residents who were receiving the Guaranteed Annual Income Supplement (GAINS) were included in the Drug Benefit Plan. Data provided by the Ministry of Revenue show that approximately one-third of the elderly population was receiving GAINS during the four-month period from the beginning of fiscal 1975 to 1 August 1975. Hence it is assumed that monthly claims by the aged in this initial interval were one-third of the monthly average thereafter.

If we let X equal average monthly expenditures under full coverage, the payments per month in the first four months of fiscal 1975 would have been $X/3$. Assigning, respectively, eight- and four-month weights to these unknowns, the following equation can be stated: $8X + 4X/3 = \$34.3$ million. Solving for X, we calculate an average monthly payment of $3.68 million, assuming coverage of the entire aged population in all of fiscal 1975. If the monthly average is multiplied by twelve, we obtain an estimate of $44.2 million for the entire fiscal period. One-quarter of that hypothetical total added to three-quarters of the $57.6 million expended in fiscal 1976 yields an estimated $54.2 million in payments for prescription drugs to the elderly in calendar 1976.

Per capita, the aged required $73.35 worth of prescription drugs during 1976. That is about 2.3 times the $31.42 spent by the general population. In a recent Canadian survey mentioned in the previous section, Josie (1973) presents data showing that in a two-day period, the elderly take 2.1 to 2.7 times more prescription drugs per capita than the average population. Our estimates fall within this empirically observed range.

With regard to non-prescription drugs, data reported by Josie (1973) suggest that per capita,. the elderly take something in the range of 1.6 to 1.9 more than the average person. It is proposed that the $258.7 million in non-prescription drug costs be divided with an adjustment factor of 1.75 – the mid-point between 1.6 and 1.9. The method of allocation is the same one that we used on dental costs. Applied to non-prescription medications, it yields an estimated expenditure of $40.5 million (0.0894 × 1.75 × $258.7

million) by the old, or a per capita average of $54.81. For prescription and non-prescription drugs together, persons 65 and over each spent an average of $128.16 in 1976.

FUTURE INSTITUTIONAL AND PHYSICIAN COSTS

This section explains the methods used to meet one of the principal objectives of this study: the projection of the future costs of selected health services to the aged. Included in this analysis are the familiar institutional types – active-treatment, long-term, extended, residential, and psychiatric care – as well as physician care. Projections are not applied to other non-institutional expenditures such as dental, drug, and outpatient costs because, as explained above, only tentative information is available to distribute them across the age groups, 0–64 and 65+ years. Utilization and costs are projected to the years 1986, 2001, and 2026. We chose those future dates to provide short-, medium-, and long-term outlooks on spending requirements. Although the population data for 2026 are more speculative than for the two earlier dates; that outside date is important because it shows the significant increases in utilization that may result as the 'baby-boom' cohort enters old age.

Basic projection methods

The projection of future spending on health services must answer three questions:

- What will the price of health services be in the future?
- What are the likely rates of utilization in the projected years?
- What are the expected changes in the size and structure of the population using health services?

The first two questions offer wide margin for debate and error. Prices might change dramatically in a period of twenty-five or fifty years. Rather than speculate on such trends, we decided to make all cost projections in 1976 dollars. Future utilization rates are subject to the unpredictable effects of technological innovation, the political and economic climate, and custom. Although there is some evidence, presented later, that the current (1976) rates of institutional utilization can and will be lowered, our projections of expenditures in this chapter are based on 1976 age-specific rates. This straight-line forecast predicts the future fiscal requirements if the patterns of service delivery in Ontario are not changed. It also provides a base-line

against which the effect of modified utilization assumptions can be measured; these modifications are examined in Chapter 7. The third forecasting issue concerns demographic trends. We have allowed this crucial factor to vary in projecting future service use and costs. Our population projections were based on an annual net migration of 45,300 persons to Ontario and a decrease in the province's total fertility rate from 1.8 in 1976 to 1.6 by 1991, after which it remains the same.[1]

The method of projecting future expenses is by linear extrapolation. That is, 1976 per capita rates of utilization are multiplied by corresponding populations in 1986, 2001, and 2026 to forecast future service requirements. For example, the aged used 15.5 days per person in 1976 on extended care (see Table 45). In 2001 this group is expected to number 1.29 million. Projecting linearly, we multiplied these two factors to an estimate of 20.0 million extended care days for the elderly in 2001. We then multiplied the estimated days by the 1976 average daily cost of extended care to persons over 65 ($22.90) to yield a projected expenditure of $458.0 million on extended care services to the aged in 2001.

Although that example correctly illustrates the method of projecting costs based on demographic changes, it also shows how this method can be abused. Chapter 4 showed that certain groups among the aged are increasing faster than others: women more than men, and the old-old more than the young-old. Similarly, differences in per capita service utilization among aged sub-groups are apparent in Gross, 1978. For instance, women place greater demands on extended care services than men and, again, the old-old more than the young-old. However, making projections for the aged population as an unvariegated whole does not account for the simultaneous variation of growth rates and per capita utilization among sub-populations of the elderly. The only way to avoid this possible source of error is to project costs separately for the various age and sex categories. Thus, we made separate projections for six elderly sub-groups (men and women 65–74, 75–84, 85+) and four non-elderly sub-groups (males and females 0–19, 20–64) and added them to arrive at elderly and non-elderly estimates. The result is in an elderly expenditure estimate of $537.4 million on extended care services in 2001. This is 17 per cent higher than the estimate of $458.0 million for the elderly as a single group, a difference that clearly demonstrates that future utilization and costs will be influenced not only by absolute demographic growth but also by changes in the age and sex structure of the population.

1 Ontario life expectancy at birth is projected to run from 69.9 to 70.6 in males and from 77.4 to 79.2 in females by 1986, after which it remains the same (see Table 41).

TABLE 49
Projected age differences in care day requirements by type of institution, Ontario, selected dates

Type of institution	Year	All ages	Aged 0–64		Aged 65+	
		Days	Days	%	Days	%
Active treatment	1976	10,345,555	6,838,328	66.1	3,507,227	33.9
	1986	12,607,566	8,037,763	63.8	4,569,803	36.2
	2001	15,598,986	9,243,689	59.3	6,355,297	40.7
	2026	20,080,214	9,770,351	48.7	10,309,863	51.3
Long-term	1976	3,349,592	992,368	29.6	2,357,224	70.4
	1986	4,320,562	1,186,971	27.5	3,133,591	72.5
	2001	5,957,532	1,374,380	23.1	4,583,152	76.9
	2026	8,609,403	1,460,356	17.0	7,149,038	83.0
Extended	1976	12,284,245	1,801,234	13.6	11,483,011	86.4
	1986	17,741,591	2,299,573	13.0	15,442,018	87.0
	2001	26,133,318	2,667,634	10.2	23,465,684	89.8
	2026	38,316,434	2,838,381	7.4	35,478,053	92.6
Residential	1976	5,796,028	540,054	9.3	5,255,974	90.7
	1986	7,700,060	657,927	8.5	7,042,133	91.5
	2001	11,365,845	767,465	6.8	10,598,380	93.2
	2026	16,963,732	820,056	4.8	16,143,676	95.2
Psychiatric	1976	2,336,019	1,788,881	76.6	547,138	23.4
	1986	2,858,262	2,156,284	75.4	701,978	24.6
	2001	3,443,927	2,508,711	72.8	935,216	27.2
	2026	4,249,314	2,657,463	63.0	1,573,851	37.0
Total	1976	35,111,439	11,960,865	34.1	23,150,574	65.9
	1986	45,228,041	14,338,518	31.7	30,889,523	68.3
	2001	62,499,608	16,561,879	26.5	45,937,729	73.5
	2026	88,219,097	17,564,616	19.9	70,654,481	80.1

SOURCE: Gross (1978)

Projection of institutional costs

Institutional utilization has been projected from actual 1976 rates by calculating utilization separately for the sub-groups described above. Table 49 presents age differences in estimated demand by institutional type. Remembering that at each of the four dates the elderly make up respectively 8.9, 10.2, 12.0, and 18.0 per cent of the population, it is plain that their share of institutional care days remains well ahead of their representation among

TABLE 50
Projected age differences in institutional costs by type of institution, Ontario, selected dates

Type of institution	Year	All ages Cost ($ million)	Aged 0–64 Cost ($ million)	%	Aged 65+ Cost ($ million)	%
Active treatment	1976	1,294.8	852.8	65.9	442.0	34.1
	1986	1,578.3	1,002.4	63.5	575.9	36.5
	2001	1,953.7	1,152.8	59.0	800.9	41.0
	2026	2,517.8	1,218.5	48.4	1,299.3	51.6
Long-term	1976	210.5	68.2	32.4	142.3	67.6
	1986	270.8	81.6	30.1	189.2	69.9
	2001	371.2	94.5	25.5	276.7	74.5
	2026	532.1	100.4	18.9	431.7	81.1
Extended	1976	301.6	38.6	12.8	263.0	87.2
	1986	402.9	49.3	12.2	353.6	87.8
	2001	594.5	57.1	9.6	537.4	90.4
	2026	873.3	60.8	7.0	812.5	93.0
Residential	1976	89.7	8.5	9.5	81.2	90.5
	1986	119.2	10.4	8.7	108.8	91.3
	2001	175.8	12.1	6.9	163.7	93.1
	2026	262.3	12.9	4.9	249.4	95.1
Psychiatric	1976	216.7	171.6	79.2	45.1	20.8
	1986	264.7	206.9	78.2	57.8	21.8
	2001	317.7	240.7	75.8	77.0	24.2
	2026	386.3	256.7	66.5	129.6	33.5
Total	1976	2,113.3	1,139.7	53.9	973.6	46.1
	1986	2,635.9	1,350.6	51.2	1,285.3	48.8
	2001	3,412.9	1,557.2	45.6	1,855.7	54.4
	2026	4,571.8	1,649.3	36.1	2,922.5	63.9

SOURCE: Gross (1978)

Ontario residents. Indeed, it is clear that, owing to demographic shifts, the aged will be consuming greater and greater proportions of care days in all types of institutions. Increases are especially accelerated in active treatment care, in which the old advance their requirement of 33.9 per cent of all care days in 1976 to over one-half in 2026. With respect to total institutional days, the elderly allotment of 23.2 million in 1976 will nearly double to 45.9 mil-

lion in 2001 and more than treble to 70.7 million in 2026. Demands by the non-aged will also rise. However, the growth is not nearly as marked for this group; the result is a shift of the aged share in total days from 65.9 per cent in 1976 to over 80 per cent in 2026.

Increased utilization has inescapable fiscal implications, which are outlined in Table 50. For any given type of care, the proportional cost differences between the ages are more or less the same as the relative utilization differences shown in Table 49. This is due primarily to our working assumption that the per diem expenses in most institutional types are not variable by age. It is interesting to observe, however, that the elderly portion of total costs is not nearly as high as their claim on total care days. Expenditures on the old climb from 46.1 per cent to 63.9 per cent of the total between 1976 and 2026, while their demand for institutional care rises from 65.9 per cent to 80.1 per cent of all days over the same period. This finding underscores the tendency of the elderly to demand more days in the cheaper forms of care: long-term care, extended care, and residential care.

The last point can be seen in Table 51, which shows percentage increases in days, costs, and population for various age groups. Increases in total days and total costs are very close for the age group 0–64 years; that is not so for the aged, especially after 1986, when care day and expenditure increases diverge somewhat. The reason for this drift is suggested by an inspection of cost rises in different categories. The costs of active treatment care and psychiatric care, the two most expensive forms of institutional care, increase at about the same rate as the aged population, whereas the costs of long-term care, extended care, and residential care outstrip this pace. Although the latter three categories make a tremendous contribution to patient day totals, these days are less costly than active treatment and psychiatric care days. Hence, institutional expenditures on the aged will not rise quite as fast as the rise in patient days projected for this group. This is not to ignore the future cost of the institutional care of the elderly, however. According to the assumptions made here, expenditures on institutional services to the aged might be expected to nearly double by 2001 and to triple by 2026. These precipitous increases will help to raise the total institutional budget by 25, 62, and 116 per cent by 1986, 2001, and 2026 respectively.

Projection of physician costs

We have projected the costs of physicians' services on the basis of the reimbursement data presented in Tables 47 and 48. Table 52 shows estimates of age differences in physician spending in 1976 and future years. It is apparent that the total physician expenditures for the elderly will grow, though not

TABLE 51
Percentage increases in population and institutional care costs over 1976 figures, Ontario, selected dates and ages

Age	Year	Population (%)	Active treatment costs (%)	Long-term costs (%)	Extended costs (%)	Residential costs (%)	Psychiatric costs (%)	Total costs (%)	Total days (%)
All ages	1986	13	22	29	34	33	22	25	29
	2001	30	51	76	97	96	47	62	78
	2026	45	94	153	190	192	78	116	151
Aged 0–64	1986	12	18	20	28	22	21	19	20
	2001	26	35	38	48	42	40	37	38
	2026	31	43	47	58	52	50	45	47
Aged 65+	1986	29	30	33	34	34	28	32	33
	2001	75	81	94	104	102	71	91	98
	2026	192	194	203	209	207	188	200	205

SOURCE: Gross (1978)

TABLE 52
Projected age differences in physician costs, Ontario, selected dates

	All ages	Aged 0–64		Aged 65+	
Year	$ million	$ million	%	$ million	%
1976	734.0	617.6	84.1	116.4	15.9
1986	863.6	712.7	82.5	150.9	17.5
2001	1,019.0	813.1	79.8	205.9	20.2
2026	1,194.3	854.1	71.5	340.2	28.5

SOURCE: Gross (1978)

TABLE 53
Percentage increases in population and physician care costs over 1976, Ontario, selected dates and ages

Age	Year	Population (%)	Physician costs (%)
All ages	1986	13	18
	2001	30	39
	2026	45	63
Aged 0–64	1986	12	15
	2001	26	32
	2026	31	38
Aged 65+	1986	29	30
	2001	75	77
	2026	192	192

SOURCE: Gross (1978)

nearly to the same extent as institutional expenditures. Still, the aged claim on total costs will remain well ahead of their representation in the population. By 2001, the old will constitute 12 per cent of the Ontario population and generate over 20 per cent of its physician expenses. The corresponding estimates for 2026 are 18 and 29 per cent.

Table 53 reveals that the rates of increase in medical costs, unlike institutional expenses, hardly differ from population growth rates. This tendency is best explained with reference to Table 48, which showed that per capita physician spending did not vary as much among elderly sub-groups as institu-

tional utilization and costs. The expenditures per person fall in a fairly tight range from $143 to $204 for young-, middle- and old-old men and women. Therefore, variable population increases in each group are not compounded with variability in per capita spending.

This trend does not prevail among the non-aged, whose expenditure requirements out-pace their population increases. Again, Table 48 suggests why this is happening. Per capita costs for the group 0–19 years are markedly less than for persons 20–64 years. However, the latter segment is getting bigger over the projected years while the former is shrinking. In other words, the accelerated growth in population is concentrated among the non-aged groups that place greater demands on physician services, a trend that will result in a faster rise in physician costs than in population growth for the non-elderly as a whole.

SUMMARY

This chapter contained sections on the costs of institutional health services, non-institutional health services, and future institutional and physician sectors. The section on institutional health service costs described the method used to measure the 1976 rates of utilization and program costs for the aged in various sorts of institutions. One technique, using data on separated patient days (SPD) was used for patients in active-treatment, long-term, and psychiatric care. The other technique used month-end and annual census statistics for extended and residential care. Age and sex distribution of care days were thus calculated and used to allocate program costs between aged and non-aged persons. Institutional care days per 1,000 population were converted into a daily rate by dividing the annual number of days per capita by 366 (1976 was a leap year). We noted the heavy burden of the elderly on institutions. The average length of stay in institutions of all sorts for elderly Ontarians (65+) in 1976 was 31.3 days compared with 4.3 days for the general Ontario population. The percentage of the population in institutions on any one day in 1976 was 0.14 per cent for persons 0–19, 0.61 per cent from 20–64, 3.64 per cent from 65–74, 11.45 per cent from 75–84, and 35.16 per cent for those 85+; i.e. well over one-third of the Ontario population over the age of 85 is in some sort of institution, and the vast majority of those are permanently 'institutionalized.'

Of the $2,113.3 million spent on institutional services in the province in 1976, $973.6 million or 46 per cent was required by those 65+. The average per capita expenditure for the population under 65 was $151.44 compared to

TABLE 54
Summary of institutional and non-institutional expenditures to elderly and non-elderly persons, Ontario 1976

	All ages		Aged 0–64		Aged 65+	
Types of care	Cost ($ million)	Cost per capita	Cost ($ million)	Cost per capita	Cost ($ million)	Cost per capita
Institutional						
Active treatment	1,294.8	156.67	852.8	113.32	442.0	598.17
Long-term	210.5	25.47	68.2	9.06	142.3	192.58
Extended	301.6	36.49	38.6	5.13	263.0	355.92
Residential	89.7	10.85	8.5	1.13	81.2	109.89
Psychiatric	216.7	26.22	171.6	22.80	45.1	51.04
Subtotal	2,113.3	255.70	1,139.7	151.44	973.6	1,307.60
Non-institutional						
Physician care	734.0	88.81	617.6	82.08	116.4	157.53
Outpatient services	255.5	30.92	215.0	28.57	40.5	54.81
Dental care	270.3	32.71	255.8	33.99	14.5	19.62
Drugs	518.4	62.73	423.7	56.30	94.7	128.16
Subtotal	1,778.2	215.17	1,512.1	200.94	266.1	360.12
Total	3,891.5	470.87	2,651.8	352.38	1,239.7	1,667.72

SOURCE: Gross (1978)

$1,307.60 for those 65+, i.e. 8.6 times as great. The rate for the aged is about five times as great as the rate for the general population ($255.70).

Non-institutional health service costs were estimated and allocated between persons under and over 65 (Table 54). Although per capita expenses for non-institutional services are higher for the elderly than for the younger population, the difference is not as great as in institutional health services. At $360.12 per person 65 and over, non-institutional expenses for the aged are 67 per cent and 79 per cent greater than for the general population and for the group aged 0–64 years respectively. The corresponding percentages in institutional services are 511 per cent and 863 per cent.

In our discussion of future institutional and physician costs we described the methods of compiling straight-line projections of institutional and physician costs. Extrapolating from 1976 rates of utilization, we found that the elderly, in all services we examined, would claim an expanding proportion of

TABLE 55
Summary of age differences in institutional and physician costs, Ontario, selected dates

	1976		1986		2001		2026	
Age	$ million	%	$ million	%	$ million	%	$ million	%
0–19	317.8	11.2	301.4	8.6	311.2	7.0	299.9	5.2
20–64	1,439.5	50.5	1,761.9	50.4	2,059.1	46.5	2,203.5	38.2
65–74	424.7	15.0	536.9	15.3	663.4	15.0	1,203.5	20.9
75–84	416.6	14.6	555.6	15.9	830.6	18.7	1,253.7	21.7
85+	248.7	8.7	343.7	9.8	567.6	12.8	805.8	14.0
Total	2,847.3	100.0	3,499.5	100.0	4,431.9	100.0	5,766.1	100.0
65+	1,090.0	38.3	1,436.2	41.0	2,061.6	46.5	3,262.7	56.6

SOURCE: Gross (1978)

total expenditures in future years. Table 55 shows the differences in institutional and physician costs for all the age groups considered in this analysis.

In 1976, 38.3 per cent of the costs owing to all institutional and physician services were attributable to the elderly. In ten years this share will increase to two-fifths and, at some point between twenty-five and fifty years from now, to over one-half of total expenditures! The claim on medical and institutional resources by the middle- and old-old is even more staggering: they account for shares approaching that of the young-old in 1976 despite the much larger size of the last group (see Table 55). By 1986, persons 75–84 are already projected to require more services than the young-old, primarily because of their heavier use of institutions. It is also apparent that at that date each aged sub-population will also demand more costs than the entire group 0–19 years even though the latter constitute a greater part of the Ontario population than all the elderly sub-groups combined! These comparisons emphasize the present differences in health care spending on various age groups and the fiscal implications of demographic changes. If the present utilization rates continue, the elderly, who are a small but growing part of the Ontario population, may eventually consume well over one-half of the province's principal health care resources – institutional and physician services.

7
Efficiency factors in the institutional care of the elderly

This chapter will examine the prospects for, and advantages of, reducing the use of institutions by the aged. This analysis is warranted for two reasons: there is evidence from empirical studies that there are inefficiencies in the delivery of institutional services; and the government of Ontario is planning future services on decreased bed-to-population ratios. Since inefficiencies are particularly manifest in the most costly institutional sector – active treatment care, we shall give special attention to the inefficiencies in that sector. We then consider the efficiencies in other institutions and examine the implications for future capital and operating expenditures.

INEFFICIENCIES IN ACTIVE-TREATMENT CARE

In recent years, the government of Ontario has argued that the province has more active-treatment beds than it needs and has followed a policy of restraining bed growth in spite of the increase in population. Until 1978 the goal was an active bed/population ratio of 4.0 per 1,000[1] (OMH, n.d.). Table 56 shows that the curbs on expansion are having some effect.

In 1978 the government announced an even lower goal of 3.5 beds per 1,000 population[2] (Timbrell, 1978a). How do these objectives compare with the forecasted demand for active treatment services? Table 57 displays the projected patient day requirements calculated in the previous chapter. The number of beds needed to produce projected care day requirements in 1986, 2001, and 2026 is estimated by dividing total days in each year by 366 and dividing again by an occupancy rate factor of 0.85. The second and third

1 The target for Northern Ontario was 4.5/1,000.
2 The target for Northern Ontario is higher: 4.0 beds/1,000 population.

TABLE 56
Active treatment care beds
per 1,000 population, Ontario 1968–1976

Year	Ratio
1968	5.1
1969	5.1
1970	5.0
1971	5.0
1972	5.0
1973	4.9
1974	5.0
1975	4.9
1976	4.8

SOURCE: Data for 1968–71 reported in Ontario Hospital Services Commission (1971); Data for 1972–6 reported in OMH (1972, 1973, 1974, 1975, 1976)

TABLE 57
Required provincial active treatment bed complements at selected bed-to-population ratios, Ontario, selected dates

Year	Projected requirements	4.0/1,000	3.5/1,000
1986	40,525	37,470	32,786
Reduction (%)	–	7.5	19.1
2001	50,140	43,014	37,638
Reduction (%)	–	14.2	24.9
2026	64,544	47,938	41,946
Reduction (%)	–	25.7	35.0

SOURCE: Gross (1978)

columns display the total number of beds at 4.0 and 3.5 active treatment places per 1,000 population. Table 57 suggests both the capital savings to be realized and the challenges to be met in reducing the number of active treatment beds in the province. Implied in the 4.0/1,000 goal are moderately paced reductions of 7.5, 14.2, and 25.7 per cent over the fifty years between

1976 and 2026. Achieving a ratio of 3.5/1,000, however, will demand more ambitious curtailments of 19.1, 24.9, and 35.0 per cent of projected bed requirements. Indeed, given the 10.3 million days of active treatment in 1976, the province already had an implied bed complement of 33,108 in that year.[3] Thus, a bed/population ratio of 3.5/1,000 could only be achieved in 1986 by eliminating some existing beds. That raises a question that we address in the next section: what evidence is there that the use of active care can be trimmed to meet the government's goals?

Empirical evidence of misplacement

Some empirical evidence of inefficiency in the active treatment sector is available from various placement studies that have attempted to measure the inefficient use of institutional resources by estimating the proportion of care given at the active level that might have been better given elsewhere (see Table 58).

The percentages exhibited in Table 58 range from 8 per cent to 32 per cent. In part, the variability may be due to the different methods by which degrees of wrong placement were established. The 8 per cent figure was inferred from data generated by the Placement and Support Services Information System (PASS) maintained by the Ontario Ministry of Health. It reflects the length of time between the medical discharge of active treatment patients and their actual discharge from hospital. This estimate is probably low because it is founded on the assumption that all hospital bed mis-utilization is structural. That is, despite the patients' medical readiness for discharge, the structure of the health care system prevents them from being discharged immediately. Although some misuse is attributable to such bottle-necks, there are studies which show that delays can also occur before the medical discharge or indeed that some admissions to hospital are not even warranted (Zimmer, 1974).

A further indication of the likely underestimation in the PASS figure is the results of other bed utilization research done in Ontario. A study by Woods, Gordon (1976b) on hospital beds in Metropolitan Toronto concluded from interviews with hospital administrators and other health personnel that at least 10 per cent of the patients in active treatment hospitals should be at another level of care. Estimates from the bed accommodation studies, derived by yet another method, are also higher than the PASS proportion. In

3 The actual bed complement for the ATC beds examined in this study was 38,415 (see Table 24). However, the implied bed complement referred to above is based on hypothetical occupancy rate of 85 per cent.

TABLE 58
Degree of wrong placement in active treatment care as revealed by empirical research

Study	Year	Place	Degree of misplacement (%)
Bed accommodation survey	1977	Kenora-Rainy River, Ont.	10
Bed accommodation survey	1975	Ottawa-Carleton, Ont.	15
Bed accommodation survey	1976	Thunder Bay, Ont.	24
Nova Scotia Council of Health	1972	Nova Scotia	32[a]
Woods, Gordon	1976	Metro Toronto	10
Placement and Support Services Information System (PASS)	1977	Ontario	8

a Applies to the population 60 years and above.
SOURCE: In the above order: OMH (1977a), OMH (1975b), OMH (1976b), Nova Scotia Council of Health (1972), Woods, Gordon (1976b), PASS data provided by the Program Development Branch of the OMH

these studies a judgement about the need for active care is passed on all patients in surveyed hospitals. This assessment is made by a local provider, usually the attending nurse or physician. The three surveys of bed accommodation show that on the day each was conducted, misplacement in acute care in the Kenora-Rainy River, Ottawa-Carleton, and Thunder Bay areas of the province was 10, 15, and 24 per cent respectively.

In addition to differences in method, the variation evident in Table 58 may also be due to patient characteristics. Age, for example, could be a factor. All of the studies discussed above average the degrees of misplacement for patients of all ages. It is therefore not possible to infer the rates of misplacement among the elderly. However, one Canadian study suggests that misutilization of active treatment beds may be higher than average among the aged. The survey done in Nova Scotia suggests that only 68 per cent of all patients over 60 in acute hospitals belong there.

Unfortunately, the empirical research reviewed here does not give a clear answer to the question about misplacement in active treatment. The differences in Table 58 could be due to several factors including geographic variation in the availability of services, methodological bias, and the variability of patient characteristics such as age. Although those factors do not wholly impeach the validity of the studies, they do show the need for province-wide examination of misplacement based on objective data and restricted to the patient group of particular interest here, i.e., the elderly. The following section details the methods by which such an examination is made.

Evidence of misplacement from diagnostic data

The bed accommodation surveys and the PASS data referred to above all show that the majority of misplaced cases could be efficiently cared for in long-term hospitals and nursing homes. Consequently, it is expected that those misplaced patients would closely resemble the chronic, long-term cases generally found in non-acute institutions. How does one identify such patients? One definition, proposed by the Commission on Chronic Illness (1956, Vol. 2, 586) in the United States, has gained wide acceptance:

> 'Long term patient' includes only those persons suffering from chronic disease or impairments who require a continuous or prolonged periods of care, that is, who are likely to need or who have received care for a continuous period of at least 30 days in a general hospital.

Thirty days' stay in a general hospital is usually the maximum in the average distribution of active treatment episodes. In order for payment to continue under OHIP, the Ontario Ministry of Health must approve stays of more than thirty days in active-treatment beds. Long-stay patients in active beds are suspected of having been wrongly placed, especially when they have chronic diagnoses. The identification of inappropriate active treatment cases depends, therefore, on two factors: a diagnosed chronic condition, and a continuous stay in hospital exceeding thirty days.

The second stipulation needs no further comment. The first poses a problem: what is a chronic disease? It is widely agreed that chronicity is not a highly specific condition (Katz et al., 1969) although some attempts have been made to describe it according to general principles (Commission on Chronic Illness, 1956, Vol 2). However, since such definitions do not specify which diseases are chronic, we decided to adopt a more empirical approach and define as chronic diseases the diagnostic conditions that are prevalent in chronic care facilities. Accordingly, we inspected data from the so-called 118 File retained by the OMH. This file contains diagnostic records of all cases discharged from Ontario's chronic care beds. In 1976, 16,564 cases appear on the 118 File, each associated with a primary diagnosis. Diagnoses are separated into 260 coded categories known as the Ontario Broad Codes (OBC). From these, a sub-set of chronic diagnostic codes was derived in two steps. First, in order to concentrate on the most prevalent conditions, we selected OBCs only for cases that constituted 0.5 per cent or more of total 118 File cases. Secondly, the codes selected were then scrutinized by two clinicians, who reduced the list to thirty-three diagnostic categories which, in their judgement, could be considered chronic.

After specifying this set of chronic conditions, we asked the OMH for data on all cases 65 years and over who stayed in active-treatment beds for thirty days or more in 1976.[4] In total, 238,389 aged patients were separated from ATC beds in 1976; of those patients, 24,693, or 10.4 per cent, had stayed a month or more in hospital. What is more, these long-stay patients required 1,355,010 days of care, or 39.7 per cent of the entire 3,416,072 separated patient days (SPDs) attributed to the elderly. Subtracting the first thirty days from each long-term case, it is apparent that 614,220, or 18.0 per cent of all elderly SPDs, were generated beyond one month of hospitalization. These figures illustrate the tendency of aged patients to spend long periods in hospital. They also show the generous boundaries within which an estimate of misused active-care days might fall.

To be sure, some portion of patient days beyond a month's stay are still within the definition of acute care. However, that is not likely the case with the thirty-three diagnostic categories that were specified as chronic. In addition, after inspecting the complete list of OBCs associated with aged patients in hospital a month or more, we added a further ten diagnostic categories. These were selected, again with the assistance of two clinicians, because of the improbability that elderly patients with these diseases would require active care of one continuous month or more.

Altogether forty-three OBCs were used to identify long-stay cases for whom extended active treatment is deemed inappropriate. Data relating to these forty-three codes are summarized in Table 59, which shows that 16,987 aged cases stayed in hospital longer than thirty days with a chronic diagnosis or a disease that would not normally require such a long period of active care. These cases used 932,975 days of care, of which 423,365 are inappropriate according to the criteria adopted earlier. The principal contributors to these excesses are diseases of the circulatory and respiratory systems, fractures, and neoplasms.

Nearly two-fifths of all the days used by the elderly were for persons who stayed a month or more in hospital. About a third of these days, or 12.4 per cent of the total, were for aged persons whose diagnoses did not raise suspicions about the appropriateness of their lengthy stay. However, the diagnosed conditions of the remaining two-thirds of those patients, or 27.3 per cent of the total days for elderly patients, would not normally require more

4 Unfortunately, the data provided also include elderly cases in rehabilitation and psychiatric units of general hospitals. This is assumed not to bias the results of this analysis, however, since no psychiatric diagnoses were considered chronic. Furthermore, in 1976 there were only 672 aged cases separated from rehabilitation units of general hospitals.

TABLE 59
Aged cases with conditions judged not to need active care of thirty days or more, Ontario 1976

Disease	Cases	Days	Inappropriate days[a]
Tuberculosis	45	3,186	1,836
Neoplasms	2,817	139,864	55,354
Diabetes mellitus	579	31,851	14,481
Diseases of nervous system and sense organs	494	29,762	14,942
Diseases of the circulatory system	6,844	391,684	186,364
Diseases of the respiratory system	1,301	64,993	25,963
Diseases of the digestive system	601	30,418	12,118
Hyperplasia of prostate	456	21,227	7,547
Diseases of the skin	230	12,604	5,704
Arthritis	902	45,860	18,800
Fractures	2,709	161,526	80,256
Total	16,987	932,975	423,365

a All days less the first 30 days for each case
SOURCE: Gross (1978)

than a month in active care. Subtracting the first thirty days for each case, we found that 435,365 days, or 12.7 per cent of all separated days, were of questionable appropriateness, assuming that the diagnoses were correct.

Two deficiencies of this technique of estimating inappropriate use of active-treatment care should be pointed out. First, the limit of thirty days is arbitrary: some long stays may be justified, and in other cases, misutilization can occur before thirty days (Zimmer, 1974). Therefore, the exclusion of cases whose length of stay is less than a month may depress the rate of misutilization. The biasing effects of the second deficiency are not as easy to discern. At issue is the use of diagnostic categories to determine a patient's appropriate use of active treatment. The use of a single primary diagnosis does not take into account the effects of the multiple conditions that are prevalent among the elderly (Adams, 1977), nor the different stages of a disease (Garg, 1978). In addition, researchers have become aware of the importance of criteria other than diagnosis in classifying patients according to appropriate types of care (Overton, et al., 1977).

This cursory examination has revealed that 18.0 per cent of all the care days used by the elderly were produced beyond a month's stay. Seven-tenths of these or 12.7 per cent of the total, were found to be inappropriate accord-

ing to our criteria. Mindful of the probability of misutilization in the earlier days of stay, we assume that some portion of the 82.0 per cent of all days generated within thirty days of admission is also inappropriate. Consequently, we conclude that the degree of misutilization is above 12.7 per cent, perhaps as high as the 15 and 24 per cent discovered in the Ottawa-Carleton and Thunder Bay districts.

Implications for targeting future bed-to-population ratios

Unfortunately the data that are available do not allow us to calculate the inappropriate use of ATC by the aged. Rounding to multiples of 5 per cent, the previous section advanced evidence that it may lie in the range from 15 to 25 per cent. Using 1978 building costs of $90,000 per bed,[5] Table 60 shows capital savings that might be realized if hospital use by the elderly were decreased by 15, 20, and 25 per cent. The projected bed needs of the elderly are based on annual patient day requirement divided by 366 and an occupancy factor of 85 per cent. It is clear from this table that decreases of 15 per cent to 25 per cent could result in absolute savings on projected capital demands. We estimate that by 2001, at least $275.8 million in current capital costs could be saved by reducing utilization by 15 per cent and up. Viewed another way, decreases of 15, 20, or 25 per cent in 2001 would obviate the necessity of building, respectively, ten, fourteen, or seventeen 300-bed hospitals, which would otherwise be needed to accommodate the growing number of elderly patients.

This analysis is instructive in setting goals for future bed-to-population ratios. It shows that, at least among the elderly, the use of active-treatment care might be reduced by as much as one-quarter. If similar reductions can be made among younger patients, then bed-to-population ratios might be lowered even more quickly. In view of the degree of inefficiency in the active care of the aged, it would appear that a goal of 4.0/1,000 rather than 3.5/1,000 is more realistic. The implications of the more ambitious objective are an eventual 35 per cent decrease in overall utilization by 2026. In view of the Ontario research reviewed and supplemented here, a cut of this magnitude seems severe, at least from the standpoint of the aged. On the other hand, a target of 4.0 beds per 1,000 would require a more moderate reduction of 7.5 per cent in the near future (1986) and larger reductions of 14.2 and 25.7 per cent by 2001 and 2026.

It must be remembered that most estimates of misplacement in active care are predicated on the availability of less costly institutional and community

5 Suggested by the Institutional Planning Branch, Ontario Ministry of Health.

TABLE 60
Capital savings resulting from various decreases in active treatment utilization by the elderly, selected dates

	Projected need		Decreased 15%		Decreased 20%		Decreased 25%	
Year	Days (000)	Beds	Beds	Savings ($ million)	Beds	Savings ($ million)	Beds	Savings ($ million)
1976	3,507.2	11,273	9,582	152.2	9,018	203.0	8,455	253.6
1986	4,569.8	14,689	12,486	198.3	11,751	264.4	11,017	330.5
2001	6,355.3	20,428	17,364	275.8	16,342	367.8	15,321	459.6
2026	10,309.9	33,139	28,168	447.4	26,511	596.5	21,126	745.7

SOURCE: Gross (1978)

alternatives. Hence, objectives for reducing hospital beds must be accompanied by policies for enhancing other services. With this in mind, the 4.0/1,000 target seems all the more desirable since it would allow gradual but significant decreases in the utilization rates. At the same time, lower-cost services could be introduced and the system would experience a less cataclysmic shift from more to less expensive services. The 3.5/1,000 goal does not appear to have those advantages. The nearly 20 per cent decline in utilization demanded by 1986 could conceivably be sustained among the elderly, but unless lower-level services were available by that imminent date, this reduction might cause some hardship.

INEFFICIENCIES IN INSTITUTIONS

In addition to the capital costs caused by inefficiencies in active treatment services, operational costs are also affected. These can only be measured, however, in the whole institutional network, since operational savings made in hospitals through the best placement of patients would necessitate additional expenditures at lower levels. Similar relationships are also possible among the lower levels of care. In estimating the cost of operational inefficiencies in the institutional network, it is therefore necessary to have a system-wide perspective on misplacement at any given time.

Evaluations of the entire system can be derived from the bed accommodation surveys and the PASS data referred to above. Also, Cape et al. (1977) have published data on misplacement in chronic, nursing home, and home for the aged beds in the area of London, Ontario. Unfortunately, although all these studies discovered wrong placement in institutions in various parts of

TABLE 61
Percentage distribution of optimal placements by actual placement level, Ontario 1977

Optimal \ Actual	Active	Long-term	Extended	Residential	Psychiatric	Other
Active	92.1	0.0	0.0	0.0	0.0	0.0
Long-term	5.3	72.9	0.7	0.9	0.0	0.0
Extended	2.6	14.2	88.5	4.9	17.4	0.0
Residential	0.0	4.2	2.8	87.6	0.0	0.0
Psychiatric	0.0	0.8	0.7	0.5	82.6	0.0
Other	0.0	7.9	7.3	6.1	0.0	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Placement and Support Services (PASS) Information System, OMH, Program Development Branch

Ontario, there is little agreement among them about the extent of the problem in any particular kind of institution. This could be due to at least two factors: real differences in misplacement among the communities surveyed and differences in the criteria for wrong placement. Because judgements about misplacement in all of these studies were subjective, the latter factor must be seriously considered.

In view of the apparent irreconcilability of these data, we decided to base our estimates of misutilization on the PASS figures, which are also to be preferred because they cover nine districts that contain 23 per cent of the Ontario population. All the other placement studies were confined to single districts or communities.

PASS data on misplacement

The PASS Information System is maintained by the Program Development Branch of the OMH. It was begun in 1977 in response to the concern expressed by a number of District Health Councils to the Ministry that insufficient data were available for the long-term planning of care services. Nine districts agreed to participate in the initial gathering of data from February 1977 to the end of September 1977. We have used the information from that eight-month period in our analysis.

Table 61 shows rates of correct placement by type of care taken from PASS data. They are based on the opinions of local discharge planners and other health personnel. For example, this table shows that only 72.9 per cent of long-term placements are optimal. The remaining 27.1 per cent would have

been better admitted to extended care (14.2 per cent), residential care (4.2 per cent), psychiatric care (0.8 per cent), or some other form of care (7.9 per cent). The 'other' category contains a number of residential settings ranging from boarding homes to senior citizens' housing to home care. All placements to the 'other' category are assumed to be appropriate.

Three comments about the data in Table 61 are necessary. First, they do not include misplacement of persons in the community who in fact belong in institutions. Secondly, they are based on the entry-point incidence of misplacement rather than the prevalence of less than perfect utilization over a period of time. Thirdly, all PASS data rely on subjective interpretations of appropriateness. Although it is not possible to estimate the bias occasioned by these three factors, PASS data do provide a framework within which inefficiencies in the institutional network can be assessed. Assuming that expenditure differences between the actual and optimal distribution of patients are a function of the differences in average daily costs between institutional types, it is possible to calculate the savings (or losses) that might be realized from a more efficient placement of patients. In other words, a patient day actually supplied at level A, would, if it could more appropriately be provided at level B, yield a cost difference equal to per diem rate A minus per diem rate B.

Applying this logic to all levels of care, the cost advantages of optimal placement are shown in Table 62. The low PASS figure of 7.9 per cent misplacement in ATC is replaced by a higher estimate of 20 per cent and distributed accordingly between long-term care (13.4 per cent) and extended care (6.6 per cent).[6] Total patient days in each of the five institutional types are shown in the column totals. Below these appear actual program costs calculated earlier. Optimal costs are estimated by adding all patient days appropriately provided in a particular institutional type and multiplying this quantity by the average per diem rate at that level.

Table 63 compares the actual and optimal costs for institutional services to the elderly. This table suggests the enormous savings that might be made with the appropriate placement of active-treatment patients. In fact the difference between actual and optimal costs in this sector is the same as the misutilization estimate – 20 per cent. This results because PASS data show no upward optimal movement to ATC from lower institutional levels. Over-all

6 It is recognized that differences in actual and optimal costs will be very sensitive to the percentage of ATC misutilization chosen. For the present purposes, however, the figure 20 per cent was selected as a reasonable mid-point in the range of estimates discussed earlier.

TABLE 62
Actual versus optimal distribution of patient days and program costs in institutional services to the elderly, Ontario 1976

Optimal placement level \ Actual placement level	Active treatment	Long-term	Extended	Residential	Psychiatric	Other	Row total	Optimal costs ($000,000)
Active treatment	2,805,782	0	0	0	0	0	2,805,782	353.6
(%)	(80.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(12.1)	
Long-term	469,968	1,718,416	80,381	7,304	0	0	2,316,069	139.8
(%)	(13.4)	(72.9)	(0.7)	(0.9)	(0.0)	(0.0)	(10.0)	
Extended	231,447	334,726	10,162,465	257,543	95,202	0	11,081,413	253.8
(%)	(6.6)	(14.2)	(88.5)	(4.9)	(17.4)	(0.0)	(47.9)	
Residential	0	99,003	321,524	4,604,233	0	0	5,024,760	77.6
(%)	(0.0)	(4.2)	(2.8)	(87.6)	(0.0)	(0.0)	(21.7)	
Psychiatric	0	18,858	80,381	26,280	451,936	0	577,455	47.6
(%)	(0.0)	(0.8)	(0.7)	(0.5)	(82.6)	(0.0)	(2.5)	
Other	0	186,221	838,260	320,614	0	0	1,345,095	?
(%)	(0.0)	(7.9)	(7.3)	(6.1)	(0.0)	(0.0)	(5.8)	
Column total	3,507,227	2,357,224	11,483,011	5,255,974	547,138	0	23,150,574	872.3
(%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	
Actual costs ($000,000)	442.0	142.3	263.0	81.2	45.1	?	973.6	

SOURCE: Based on Table 61; active treatment misutilization estimate adjusted upwards as explained in text

TABLE 63
Differences in optimal versus actual institutional costs for the aged, Ontario 1976

Types of care	Actual cost ($000,000)	Optimal cost ($000,000)	Actual minus optimal costs ($000,000)	Percentage difference
Active	442.0	353.6	88.4	20.0
Long-term	142.3	139.8	2.5	1.8
Extended	263.0	253.8	9.2	3.5
Residential	81.2	77.6	3.6	4.4
Psychiatric	45.1	47.6	−2.5	−5.5
Total	973.6	872.4	101.2	10.4

SOURCE: Gross (1978)

cost savings to the institutional sector of 10.4 per cent would be realized if elderly patients had been in their proper place in the system. Psychiatric care is the only sector that becomes more expensive under optimal conditions. The 5.5 per cent rise is due to the opinion that small but significant portions of long-term, extended, and residential placements would have benefited from psychiatric care (see Table 61).

Three qualifications must be made to the findings presented above. First, basing differences in actual and optimal program costs on average per diem rates may introduce some distortion. For example, it is probable that the care of active treatment patients who ought to be in long-term or extended care is costing less per day than average. Likewise, persons in extended or residential care who belong in long-term care may be making greater than average consumption demands in these types. This qualification vitiates somewhat the entire analysis since, taken to the extreme, it cancels out all cost advantages due to optimal placement. That this actually happens in practice is doubtful. Consumption patterns at any given level of care depend on the delivery mode at that level. This can be deduced from our cost analysis of active treatment care. Fixed costs for such items as overhead, depreciation, housekeeping, laundry and linen, and food alone come to over $20 a day, a rate that already approaches the per diem rate for extended care. To this must be added the inevitable expenses for nursing, employee benefits, and general administration. In fact, setting the daily nursing costs for misplaced elderly patients at two-thirds the average rate brings the per diem to just over $60 – about the same as the average daily costs in long-term care. If drugs, supplies, and diagnostic or therapeutic procedures are required, daily expen-

ditures will certainly climb beyond long-term care rates. The upshot of this discussion is clear: although optimal cost differences calculated on the basis of average per diem rates may be biased, they do suggest an order of magnitude into which these differences might be expected to fall.

The second qualification relates to the likely behaviour of the health care system in moving from actual to optimal placement. The analysis presented here assumes that these are two discontinuous states and that we need only replace the first with the second. In practice, the transition would be gradual and prone to the unforeseen accidents that accompany evolutionary processes. For example there might be an increase in discretionary admissions at institutions in which case loads were being reduced by the elimination of inappropriate admissions. There is in fact some theoretical evidence that the economic incentives faced by providers and administrators run counter to attempts to reduce over-all rates of institutionalization (Migue and Belanger, 1974). Thus, for example, shifting elderly patients from hospitals to more suitable institutions will make more beds available and may increase hospital costs due to elective surgery (Vayda, 1973; Dyck, 1977). The result might well be a more costly institutional care network.

The third stipulation concerns savings accrued through appropriate placement of the aged outside the institutional system. We have seen that 1,345,095 days of care could be pared from the institutional sector by placing more individuals in the 'other' category consisting of a whole range of residential and community services. This translates into a saving of $35.4 million, or roughly a third of the total reduction in institutional costs under optimal placement. This analysis has not shown what it would cost to substitute the 1.3 million institutional care days with non-institutional services. Obviously they would not be free, a fact that must be borne in mind in viewing the estimated savings. Also excluded are any estimates of unmet need in the community for institutional or other care. The probability that such need exists also qualifies the findings diplayed in Table 62. The two question marks in this table call attention to these qualifications since neither the actual nor ideal costs of non-institutional services to the aged are known.

Implications for future operational expenditures

If the projected operational expenses that were presented in Chapter 6 reflect the same degrees of misutilization as present expenses,[7] it is possible to cal-

7 Of course, rates of inappropriate utilization may not be the same in future years owing to the changing age structure of the population. If, for instance, the old-old have a higher rate of misplacement than the average for all the elderly, then the more rapid growth in persons above 85 should raise the rate of misutilization for persons 65+.

TABLE 64
Absolute daily and operational savings by institutional type given optimal placement of aged patients, Ontario, selected dates

Type	Year	Days saved (000)	Operational savings ($000,000)
Active treatment	1976	701.4	88.4
	1986	914.0	115.2
	2001	1271.1	160.2
	2026	2062.0	259.9
Long-term	1976	41.4	2.5
	1986	56.4	3.4
	2001	82.5	5.0
	2026	128.7	7.8
Extended	1976	403.1	9.2
	1986	540.5	12.4
	2001	821.3	18.8
	2026	1241.7	28.4
Residential	1976	227.5	3.6
	1986	310.0	4.7
	2001	466.3	7.0
	2026	710.3	10.7
Psychiatric	1976	−30.2	−2.5
	1986	−37.2	−3.1
	2001	−49.6	−4.1
	2026	−83.4	−6.9
Total	1976	1343.2	101.2
	1986	1783.7	132.6
	2001	2591.6	186.9
	2026	4059.3	299.9

SOURCE: Gross (1978)

culate the absolute savings that might result from the optimal placement of aged patients in future years (see Table 64). Not surprisingly, the largest savings are in the active-treatment sector, in which an estimated 20 per cent of care days were found to be misused. Psychiatric care is the only institutional category that needs to be expanded. By 2001, some 2.6 million care days might be pared from the institutional network serving the aged. This number climbs to over four million in 2026. At the same time of course

there are appreciable operational savings, which grow in all institutional types except psychiatric care. In 2001, total expenditures on the institutional care of the aged might be $186.9 million less than expected given present utilization rates and prices. In 2026, the corresponding figure is $299.9 million.

SUMMARY

This chapter examined some inefficiencies in the institutional care of the elderly. In the active treatment sector, this was approached from two perspectives: the governments' policy of reducing bed-to-population ratios, and empirical studies showing levels of misplacement in active beds. The second perspective was supplemented with an analysis of province-wide diagnostic data on long-stay elderly patients, according to which at least 12.7 per cent of care days to the aged were of questionable appropriateness. Though no definitive figure was calculable, it is reasonable to assume that misplacement may actually lie in the range of 15 to 25 per cent if, as suspected, some utilization within thirty days of admission is also unsuitable. Other empirical studies in Ontario support this view. This range of misplacement makes the government's goal of a 3.5/1,000 bed-to-population ratio appear stringent. Given the projected growth of the elderly proportion of the population, the former target of 4.0/1,000 seems more realistic. Since most placement research predicates decreases in active beds on the availability of lower-cost alternatives, the moderately paced reduction implied by the 4.0/1,000 goal would permit the development and stabilization of these complementary support services.

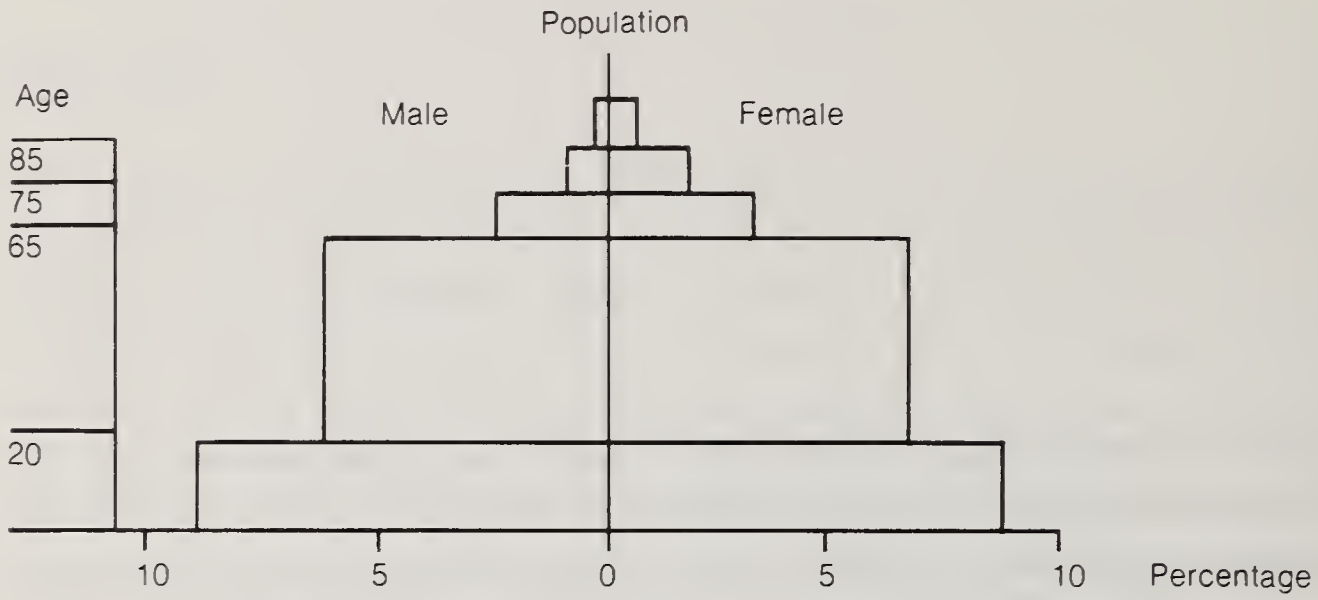
Operational savings in the institutional network to the elderly were calculated on the basis of data from the Placement and Support Services Information System. Various limitations of these data and their use were reviewed. However, they tentatively suggest that $101.2 million, or 10.4 per cent of all institutional costs to the elderly, could have been saved in 1976. Of course, some of those savings would have had to be spent on other non-institutional services. Assuming similar rates of misplacement in our projections of future utilization, absolute operational savings increase in all institutional sectors except psychiatric care. By 2001, the projected costs could be reduced by $186.9 million through proper placement. By 2026, this estimate reaches $299.9 million. Most of the savings are in hospitals where, assuming a misutilization rate of 20 per cent among the elderly, sizeable capital savings of $367.8 million and $596.5 million respectively are also projected at those future dates.

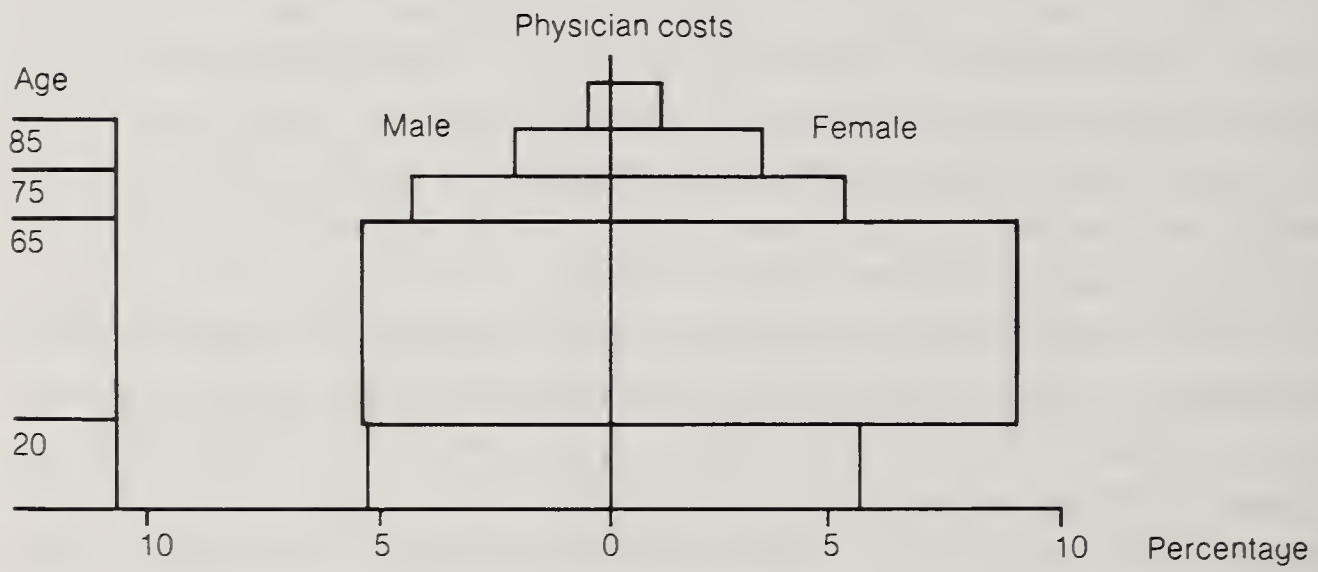
8
Findings and policy implications

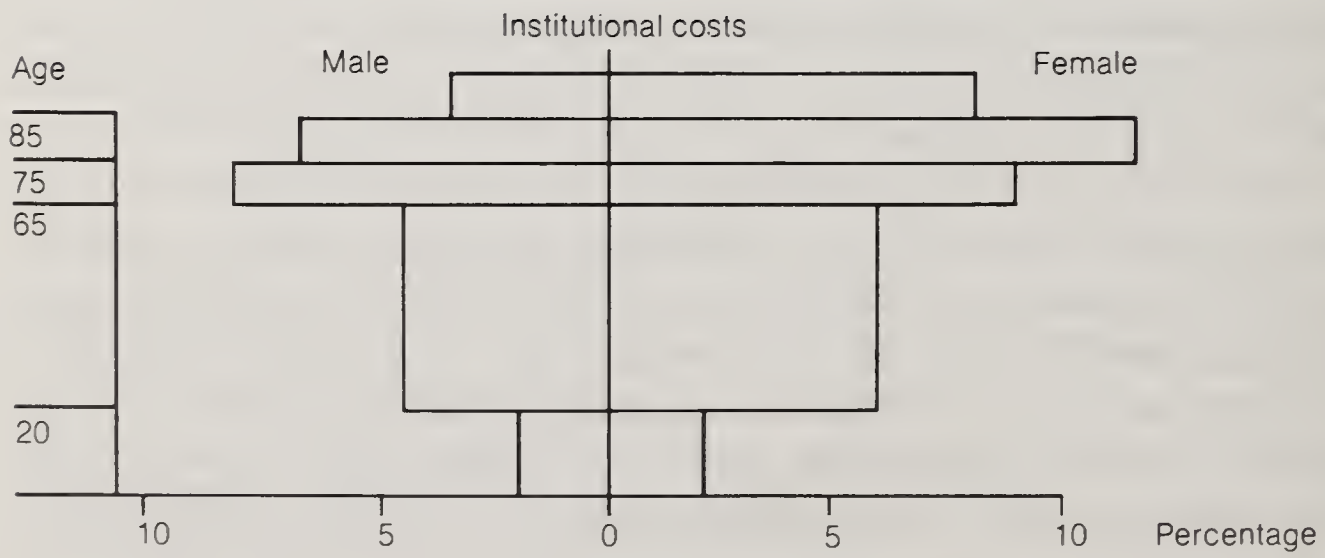
This study has addressed age differences in health care utilization and costs. Figure 5 compares the age and sex distribution of the three variables examined in this study – population, physician costs, and institutional costs. The pyramidal structure of the Ontario population in 1976 contrasts sharply with the contours of medical and institutional spending. Although proportionally the largest group in the Ontario population, persons from 0–19 years do not place the heaviest expenditure demands on physician or institutional services. The requirements of persons in the middle years, from 20 to 64, are approximately in line with their representation in the population, with the exception of physician expenditures for women.

What is most striking from these graphs is the large fiscal demands of the elderly compared to their share in the provincial population. Persons 65 years and over make up 8.9 per cent of the population but are responsible for 15.9 per cent of physician costs and 46.1 per cent of all institutional care costs. Figure 5 also shows the various contributions to these averages by young-old, middle-old, and old-old men and women. In every instance, these sub-populations account for a greater share of medical and institutional health care costs than their numbers in the population might predict. This is particularly true of the institutional sector, in which high demands by the middle- and old-old and low demands by the very young tend to invert the population pyramid. Persons 75 to 84 made up only 2.7 per cent of the population in 1976 but required 17.9 per cent of all institutional spending. The corresponding figures for those 85 and over are 0.7 and 11.3 per cent respectively. In other words, the proportion of institutional expenditures on the old-old is fully sixteen times greater than their representation in the population. Also notable are the high expenditure rates for elderly women, especially in the institutional area, where the graph shows a noticeable bulging on the female side.

Figure 5
Comparison of the age and sex distribution of the Ontario population, physician costs, and institutional costs, 1976







Note: All 0-19 and 20-64 year percentages have been averaged to ten-year intervals.
Source: Gross (1978)

Figure 5 emphasizes the very heavy expenditure requirements of the aged on two principal health care resources – physicians and institutions. These demands are set in the perspective of other health care costs in Figure 6, which shows that even when physicians, dentists, drugs, and out-patient services are included, something over three-quarters of all health expenditures on the elderly are generated in institutions, especially active treatment (35.7 per cent) and extended care (21.2 per cent) types.

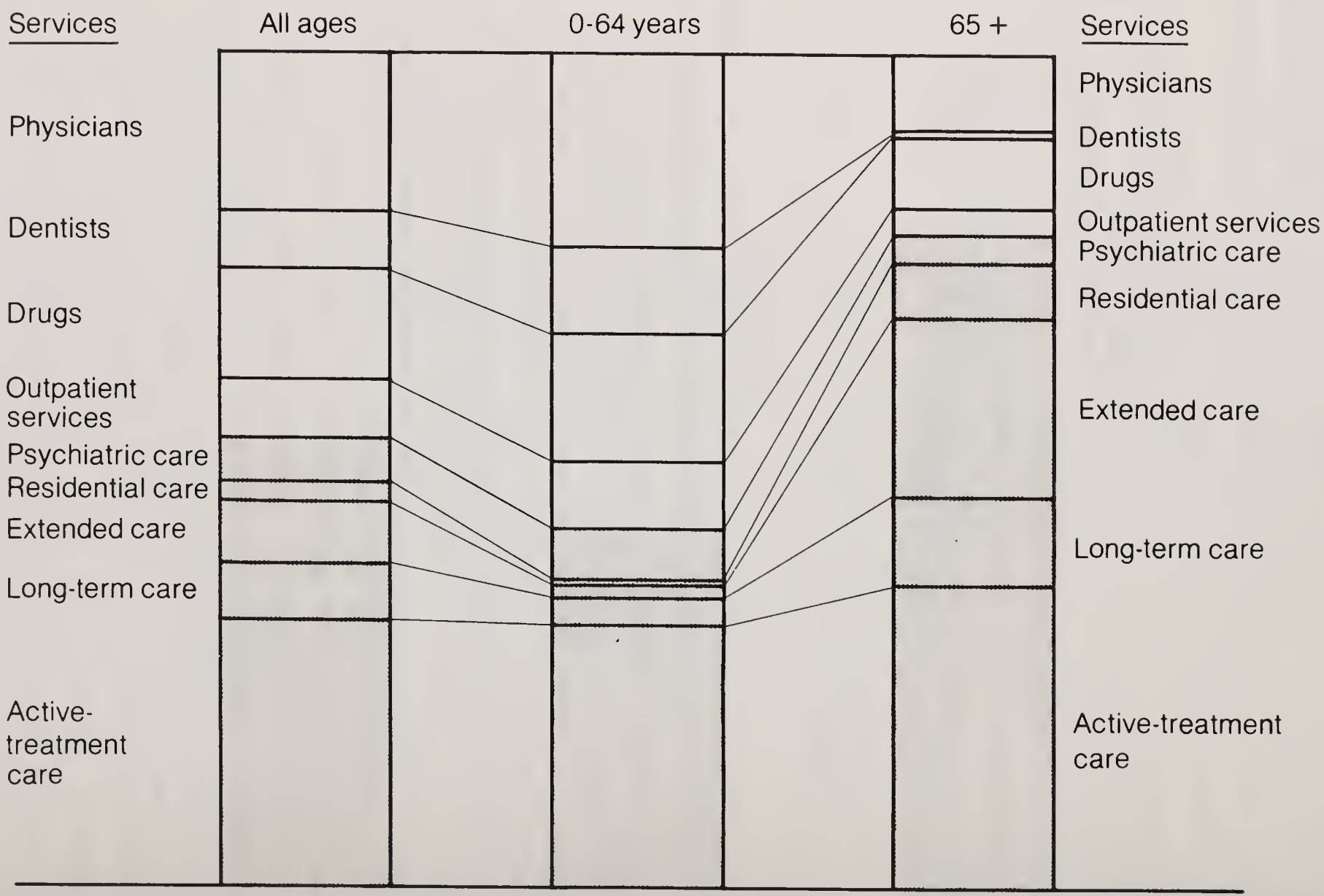
This stands in contrast to the pattern of spending on persons 0–64 years. Although active treatment care is their biggest expenditure item (see Figure 6), the cost for all forms of institutional care amounts to only 43.1 per cent of the total. The second and third largest expenses are for physicians (23.3 per cent) and drugs (16.0 per cent). Spending on dental services (9.6 per cent) is nearly as high as on all non-active treatment institutional services put together (11.0 per cent). (See Table 54.)

INSTITUTIONALIZATION AND THE AGED

The findings discussed above emphasize one of the central themes of this report: the seemingly excessive rates of institutionalization and corresponding expenditure demands among the aged segment of the Ontario population. We have reduced the prevalence data on utilization to a daily average, a procedure that reveals the proportion of the aged population that might be found in institutions on any given day. Table 65 shows the daily rates that we have calculated together with figures from an earlier study by Schwenger and Palin (1974). These percentages are quite close although some variation is evident. Residential and psychiatric rates decreased appreciably between 1971–3 and 1976; active treatment decreased somewhat; and long-term care rates were virtually the same. Extended care is the only one that rose (but only slightly). In total there appears to have been a very small decline in the percentage of aged persons in Ontario institutions from 1971–3 to 1976. This would seem to suggest that the government's policy of holding the line on institutional growth may be having an effect.

Notwithstanding that reduction the rates of institutionalization among the province's aged remain high, a fact however that has been somewhat obscured by disagreements about the meaning of 'institutionalize.' Normally this term applies to persons who spent one month or more in an institution. Since stays for active treatment are usually shorter, some observers have insisted on deducting the active treatment rate from the total. Following that tack, the rate of institutionalization for the elderly might be set at 7.26 per

Figure 6
Age differences in health care spending by service types, Ontario 1976



Shaded areas = institutional costs

Source: Table 54

TABLE 65
Proportion of the elderly population in institutions on any given day, Ontario, 1971–3 and 1976

Type of care	1971–3 (%)	1976 (%)
Active treatment	1.47	1.30
Long-term	0.89	0.87
Extended	4.17	4.25
Residential	2.30	1.94
Psychiatric	0.32	0.20
Total	9.15	8.56

SOURCE: Data for 1971–3 taken from Schwenger and Palin (1974). Data for 1976 are from Table 45.

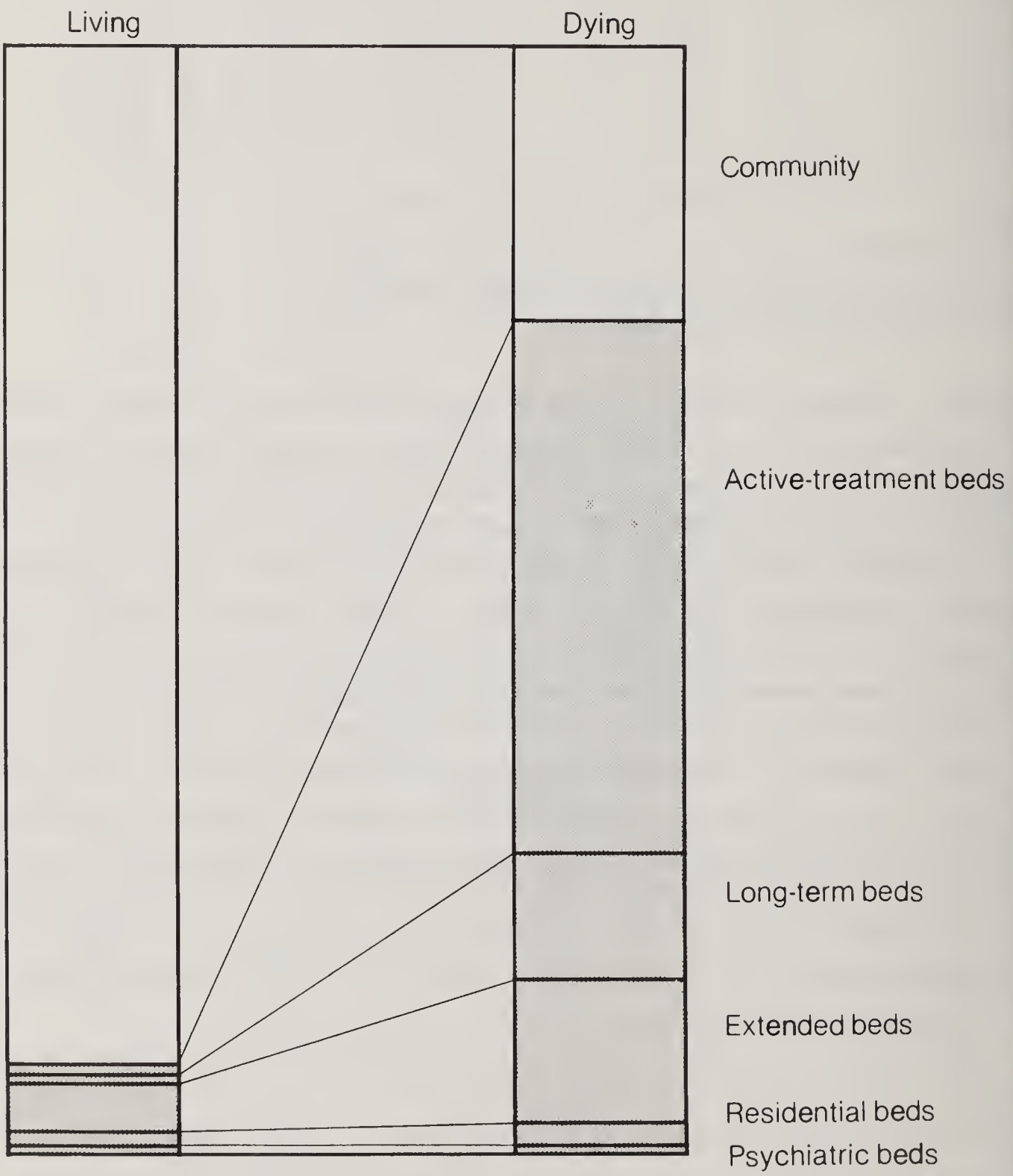
cent or 1.30 per cent less than the 8.56 per cent shown in Table 65. However, that adjustment is not altogether accurate since 10.4 per cent of all aged cases stayed a month or more in active beds and accounted for 39.7 per cent of all patient days produced for older persons discharged from active care in 1976.

A second difficulty is the perspective from which institutionalization is viewed. The figures in Table 65 relate to what might be called the 'system perspective' of institutionalization. This means that they are useful indicators of the system's capacity to accommodate the elderly in institutions. A second and equally valid perspective is that of the individual. That is, although the system's capacity for institutionalizing aged persons may only be about 8 or 9 per cent on any given day, this proportion does not represent the chance of ultimate institutionalization faced by the aged individual. That chance (or risk) is in fact much higher. Figure 7 shows that in 1976 more than 90 per cent of Ontario's elderly lived at home at any given moment. However, over three-quarters of the older persons who died in 1976 spent their final days (or hours) in an institution.

Although most aged deaths occur in acute-care beds, more than one-quarter are in long-stay beds in long-term (11.7 per cent), extended (13.5 per cent), and residential care (1.8 per cent). In other words, the aged individual stands more than a one-in-four chance of spending some time in a long-stay institution before his death. Moreover, this must be viewed as a minimum estimate of the individual's chance of institutionalization because it excludes those who lived in long-stay institutions but who died in hospital. Clearly the individual perspective on institutionalization is much less optimistic than the system view.

Figure 7

Proportions of Ontario population 65 and over who live and die in institutions and in communities, 1976



Shaded area = institutions

Source: 'Living' rates are based in data shown in Table 45; 'dying' rates are taken from Gross (1978)

Comparisons with other jurisdictions

The preceding discussion raises the question: do the present rates of institutionalization among the Ontario's aged need to be so high? This question was addressed in Chapter 7, which reviewed the findings of various placement studies. Another way of answering the question is to compare Ontario with other jurisdictions. Table 66 shows the number and percentage of persons 65 and over in institutions on any one day in Canada and each of the provinces. In Ontario 8.9 per cent of the population 65 and above is in institutions on any one day. This proportion is slightly higher than the 8.56 per cent computed earlier because 'Special care facilities' include institutions for the physically and mentally handicapped in addition to nursing homes and homes for the aged.

Ontario's daily rate of institutionalization among the aged is the third highest in Canada. The highest rates are in Manitoba (9.1 per cent) and Alberta, where the figure may be as high as 12.4 per cent if that province's 'lodges' are counted.[1] The Maritime provinces, with the exception of Prince Edward Island, are much lower, and British Columbia's rate is 2 per cent less than Ontario's. It appears that other Canadian provinces can care for their aged populations with less emphasis on institutions.

Health care utilization in Ontario is often compared with that in the United States and Great Britain. However, owing to possible inconsistencies in defining the various types of care, comparisons in any given type of care must be tentative. Nevertheless, it is clear that with the exception of the smallest sector – psychiatric care – Ontario's rates are in every way greater than those of the United States and England and Wales (see Table 67). This is particularly true of nursing homes and residential care. Unfortunately, expenditure accounts could not be obtained to accompany English utilization data. However, age differences in personal health care spending in the United States are available and are shown in Table 68.

This table stresses the inevitable fiscal consequence of a heavy reliance on institutional care. It appears that for every person 65 years and above, about $323 more is spent on institutional care in Ontario than in the United States. That amounts to a difference of 31 per cent, some of which can be attributed to inflation[2] and variations in currency. However, the primary reason for Ontario's higher per capita institutional costs is that the province has more of its elderly in institutions. As shown in Table 68, this fact pushes the total per capita costs for the elderly above the American figures despite the lower

1 Lodges are residences that offer ward accommodation to the well aged.

2 American data pertain to a slightly earlier fiscal period from 1 July 1975 to 30 June 1976.

TABLE 66
Number and percentage of aged persons in various types of institutions at any given time, Canada and the provinces, 1976

Province	Population 65 years and over	Hospitals[a]		Special care facilities[c]		Mental health facilities[d]		All types[f]	
		Persons[b]	% Pop.	Persons	% Pop.	Persons	% Pop.	Persons	% Pop.
Newfoundland	36,535	504[e]	1.4	1,495	4.1	30	0.1	2,029	5.6
PEI	13,245	199[e]	1.5	842	6.4	8	0.1	1,049	7.9
Nova Scotia	80,730	1,258	1.6	4,228	5.2	208	0.3	5,694	7.1
New Brunswick	61,080	1,185[e]	1.9	3,107	(5.1	206	0.3	4,498	7.4
Quebec[f]	481,360	11,455	2.4	–	(–	3,181	0.7	–	–
Ontario	738,920	16,309	2.2	48,158	6.5	1,517	0.2	65,984	8.9
Manitoba	106,560	2,318	2.2	6,892	6.5	458	0.4	9,668	9.1
Saskatchewan	102,175	2,263	2.2	6,476	6.3	188	0.2	8,927	8.7
Alberta[g]	137,925	4,675	3.4	7,297	5.3	983	0.7	12,955	9.4
				(11,422)	(8.2)			(17,080)	(12.4)
British Columbia	242,055	5,150	2.1	10,304	4.2	1,353	0.6	16,807	6.9
Canada	2,000,585	45,316	2.3[h]	–	5.8[i]	8,132	0.4[h]	–	8.4[f]

a 'Hospitals' include all general and allied special hospitals in the reporting provinces. Data were supplied by the Hospital Morbidity Section, Health Division, Statistics Canada.

b 'Persons' are calculated as 1/366 of all days used by separated hospital patients.

c Age-classified year-end census counts on reporting facilities were supplied by the Special Care Facilities section, Health Division, Statistics Canada. From this sample estimates for the complete range of facilities were made on the basis of inventory data furnished by the same section. Since the sample used is not random, standard errors cannot be computed. Only those facilities whose 'Principa characteristics of residents' is aged, physically handicapped or mentally handicapped are included in these estimates. (See special qualifications on Alberta special care facilities under note *g*.)

d Preliminary age-classified year-end census counts for all mental health facilities were provided by the Mental Health Section, Health Division, Statistics Canada. (See Statistics Canada 1977 for inclusions.)

e Persons in 'Hospitals' on any given day in 1976 are estimated from 1975 utilization data in the case of Newfoundland, Prince Edward Island, and New Brunswick. This estimate was made on the basis of the percentage change in the elderly population of these provinces between 1975 and 1976.

f No data are available on Quebec special care facilities.

g Alberta 'Lodges' are not included in the special care facilities data. Cornell and Engelmann (1975) report 4,125 residents in lodges in 1975, virtually all of whom were over 65 years. Assuming this same figure for 1976, 4,125 has been added to the 'Special care facilities' statistics and used to compute a more comprehensive estimate of the utilization care in Alberta. This estimate is shown in parentheses in the 'Special care facilities' and 'All types' columns.

h National rates for 'Hospital' and 'Mental Health Facilities' are based on the Canadian population 65+ exclusive of the Yukon and the Northwest Territories.

i National rates for 'Special care facilities' and 'All types' are based on the Canadian population 65+ exclusive of Quebec, the Yukon, and the Northwest Territories.

j Percentages in this table may not add to 'All types' total owing to rounding of numbers.

SOURCE: Health Division, Statistics Canada

TABLE 67
Percentage of persons 65 and over in various types of institutions at any given time, Ontario, England, and the United States

Type of institution	Ontario (1976)	England & Wales (1970–71)	United States (1973–77)
Hospitals	2.2	1.8	1.0
Nursing home-residential	6.5	2.4	5.0
Psychiatric care	0.2	0.9	0.3
Total	8.9	5.1	6.3

SOURCE: For Ontario figures, see Table 66; English data are from Evans (1977); U.S. hospital care data from the Hospital Discharge Survey for 1975 as reported in National Center for Health Statistics (1977b); U.S. nursing home data from the 1977 National Nursing Home Survey as reported in National Center for Health Statistics (1978); U.S. psychiatric data are for state and county mental hospitals in 1973 as reported by Ball (1977).

TABLE 68
Comparison of per capita personal health care expenditures on persons 65 and over, Ontario, 1976, and the United States

Type of care	Ontario ($)	United States[a] ($)
Institutional care		
Hospitals[b]	896.60	688.59
Nursing homes[c]	465.81	350.61
Subtotal	1,362.41	1,039.20
Non-institutional care		
Physicians' services	157.53	255.92
Dentists' services	19.62	31.53
Drugs	128.16	121.22
Subtotal	305.31	408.67
Total	1,667.72	1,447.87

a All U.S. data are for the fiscal period from 1 July 1975 to 30 June 1976.
b Ontario hospital care data include all active treatment care, long-term care, psychiatric care, and out-patient service costs to insure comparability with U.S. figures.
c Ontario nursing home data include both extended and residential care costs to insure comparability with U.S. figures.

SOURCE: U.S. data are taken from Gibson et al. (1977); Ontario data are from Table 54.

spending on non-institutional care by the aged residents of Ontario. Again, differences in definitions and programs in the 'Hospital care' category make comparisons between the United States and Ontario unsure. However, nursing home care is probably similar in both jurisdictions, and average patient day costs are approximately the same.[3] If per capita nursing home spending on the elderly in Ontario in 1976 had been the same as in the United States, a net saving of $115.20 for every aged man and woman in the province would have resulted. This would amount to a total saving of $85.1 million.

The above comparisons lend further credibility to our findings regarding the inefficiencies in institutional care in Ontario. They show that other jurisdictions can manage to care for their elderly population with less institutionalization. Furthermore, they indicate some of the apparent fiscal advantages of this arrangement. We conclude from these comparisons that a reduction in Ontario's institutional sector is feasible.

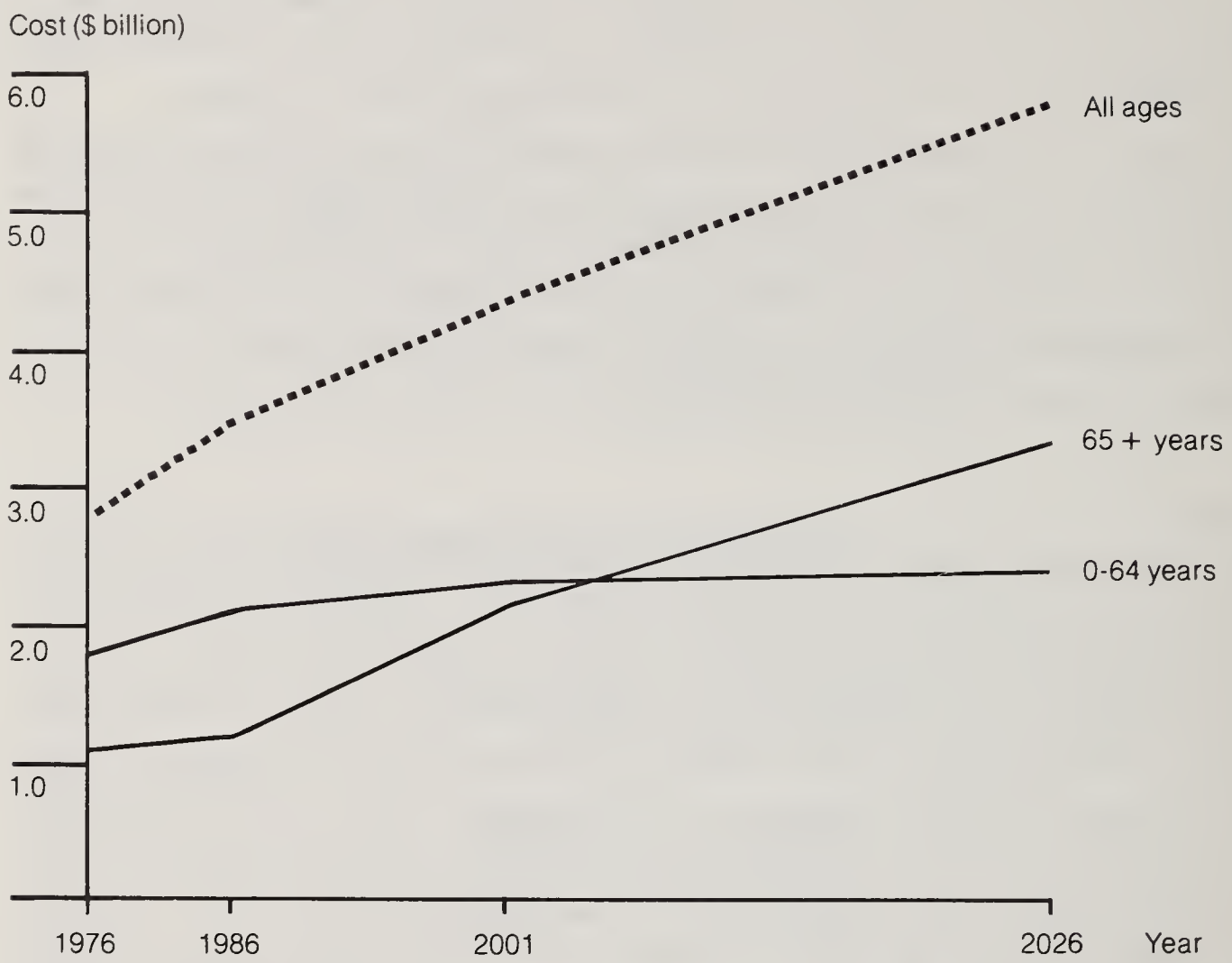
The future

Figure 8 summarizes our straight-line projections (presented in Chapter 6) of future service demand and costs. It shows that institutional and physician expenditures on persons 65 years and over will nearly double between 1976 and 2001 and will almost triple by 2026. At some point between 2001 and 2026, the spending on the elderly for these main categories of health care will actually surpass the costs for the young. If the present utilization rates continue, this will occur despite the relatively small proportion of the aged in the general population. In 2001 the elderly will form 12.0 per cent of the population and by 2026, 18.0 per cent. Yet at those dates the aged will require 46.5 and 56.6 per cent, respectively, of the health care resources.

This phenomenal growth is fed particularly by the institutional sector, in which the aged will require a doubling and tripling of patient days and expenditures by 2001 and 2026 respectively. In active treatment care, patient-day demands by the elderly are projected to rise from 3.5 million in 1976 to 6.4 million in 2001 and 10.3 million by 2026. Assuming a normal bed occupancy rate of 85 per cent, these projections call for bed requirements of 20,428 in 2001, and 33,139 in 2026 (see Table 60). That translates into thirty more

3 The total nursing home expenditure on the aged in the U.S. equalled $8,032 million in fiscal 1976 (Gibson et al., 1977). Assuming 1.1 million persons, or 5 per cent of the 22.9 million elderly in the U.S., were in nursing homes on any one day in 1976 (National Center for Health Statistics, 1978), the average per diem is calculated to be $19.95 (or $8,032 million ÷ 1.1 million patients ÷ 366 days). This is roughly in line with Ontario rates for extended care ($22.90) and residential care ($15.45).

Figure 8
Projected institutional and physician costs by age, Ontario, selected dates (1976 dollars)



Source: Table 55

300-bed hospitals by 2001 and seventy-two by 2026 just to accommodate the increased elderly demand! Similarly dramatic growth patterns are projected for other types of care.

If these seem like dire or even incredible projections it must be remembered that they are based on actual age- and sex-specific utilization rates in 1976. Projections, however, are not predictions. Any one of the health, socio-demographic, and economic, or health system factors discussed earlier might change and thereby affect the future demand for services (see Boulet and Grenier, 1978).

We discussed earlier the Ontario government's commitment to slow the growth of the institutional sector, particularly in active-treatment, extended, and residential care. The constraining of costs by slowing growth may succeed in reducing bed-to-population ratios over time; however, policies that focus on supply alone do have their limitations, for, if genuine needs are to be satisfied, there is some limit below which supply-to-population ratios cannot drop. If it is assumed, for example, that the forecasted demand by the elderly for active treatment care must be met, then a fall in bed-to-population ratios will eventually squeeze younger patients out of active-treatment places. This is illustrated in Figure 9, which shows the split between 'affordable' and 'expendable' patient days under different bed-growth rates. If active-treatment beds are frozen at the 1976 level, the projected demand by the elderly would consume all active-treatment services by the year 2026. Smaller reductions to 4.0 and 3.5 beds per 1,000 persons offer somewhat more comfortable margins for accommodating the projected elderly requirement.

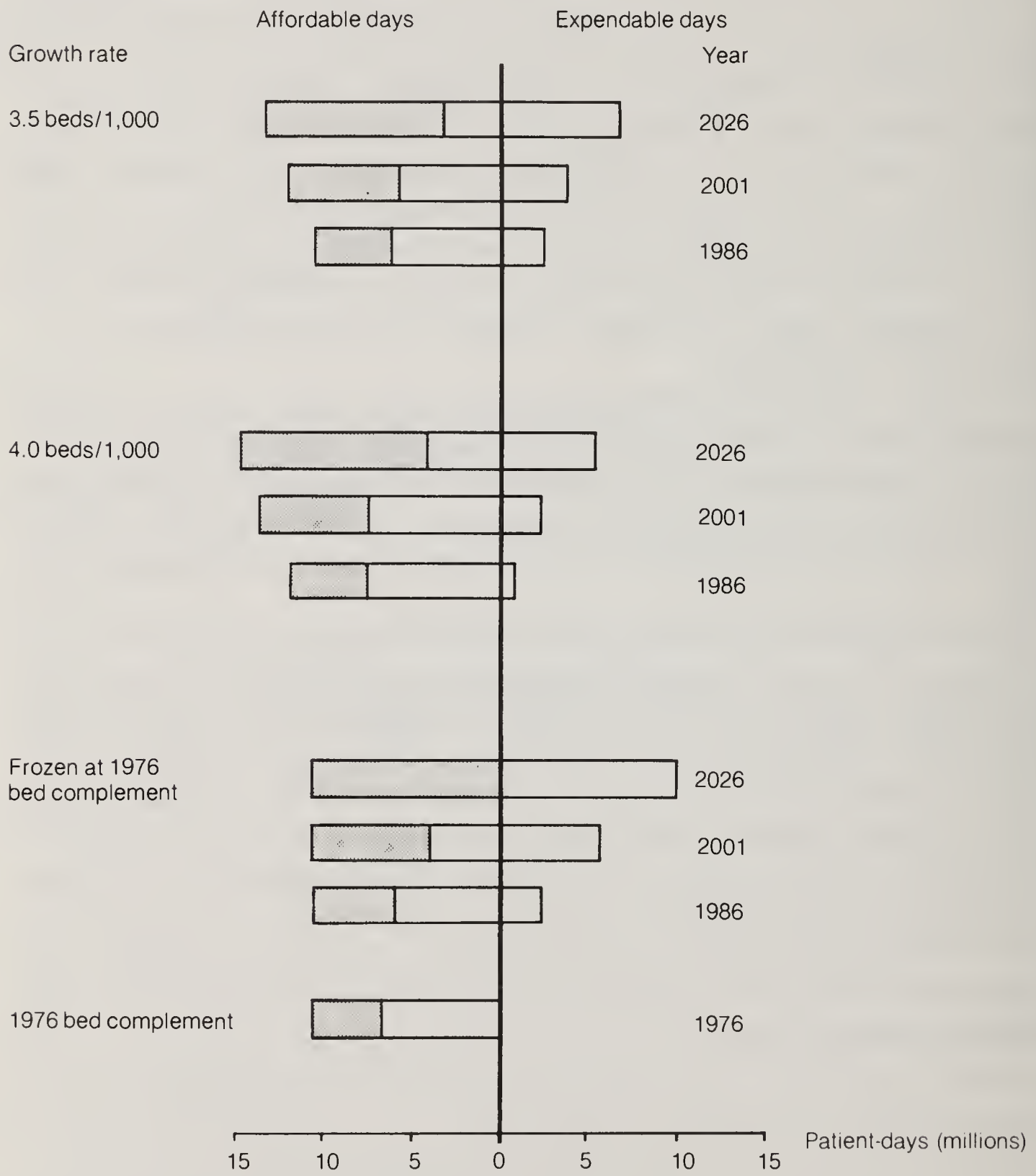
Of course, the elderly demand for patient days might itself be reduced. However, the pursuit of this goal also has its limits. As shown in Chapter 7, a ratio of 3.5 active beds per 1,000 would entail bed and patient-day reductions of 25 and 35 per cent on projected requirements in 2001 and 2026. Unfortunately, there is no evidence that elderly demand can be reduced by 35 per cent.

Policies intended to curb the supply of institutional beds are also limited in other ways. First of all, a simple reduction in the supply will not ensure that institutional services are used effectively or efficiently. Some co-ordinating mechanism is necessary to direct the demand to the right institutions. Secondly, curtailing the supply of institutional services will have results that will call for a policy response. This has already been evidenced in the mental health field, in which a policy of de-emphasizing institutions in the 1960s has had deleterious consequences for psychiatric patients who are not in institutions. (Allodi and Kedward, 1977 and 1973). It is imperative, therefore, that a reduction in supply be complemented with alternative programs providing support in the community.

IMPLICATIONS FOR POLICY DIRECTION

With regard to the institutional care of the elderly, several policy implications emerge from this study. All of them pertain to two requirements in the planning and management of such services – alternatives and co-ordination.

Figure 9
Affordable versus expendable active-treatment care days for elderly and non-elderly persons under selected bed growth rates, Ontario



Shaded area = days for persons 65 +

Source: Tables 49 and 57

The need for alternative services

We have pointed out Ontario's strong and even excessive reliance on institutions for caring for its aged population and examined the fiscal consequences. More than three-quarters of the health care bill for the elderly in 1976 was for institutional services. Placement studies, an analysis of diagnoses, and comparisons with other jurisdictions all point to the conclusion that in Ontario the use of institutions by the aged is inordinately high. Further evidence from some of the same studies reveal that persons wrongly placed in institutions could, with additional services, be more adequately cared for out of institutions.

The government of Ontario has subscribed to those findings in its policy statements. It continually stresses the desirability of de-institutionalization and the need for community support services to complement institutions (Carman, 1978a and 1978b; Norton, 1978; Timbrell, 1978b). But the government's actions have served to reduce the institutional bed-to-population ratios without expanding alternative community services enough. Programs such as Chronic Home Care, which might be an alternative to institutions, are still quite limited. Other non-institutional services, such as day care and day hospitals, are only sporadically available, while recreational and social services are so poorly co-ordinated that it is not even possible to estimate their numbers.

In defence of the government of Ontario, it might be said that there is not enough evidence that complementary programs delay or obviate the need for institutional care and thereby save money. In fact the economic advantages of those programs have been questioned on three grounds: (1) there is no assurance that institutions will be used less because of complementary programs since beds may be filled by discretionary cases; (2) it is uncertain what the demand for alternative services might be if universally available; nor is it clear how to ensure that only the people who need those services will receive them; and (3) there is as yet no proof, when all the costs are considered, that alternative services are cheaper than institutional programs.

Notwithstanding those reservations, they do not entirely justify the slowness of the development of alternatives to institutional care. Each has a counter-argument: (1) rates of utilization in Ontario's institutions will have to drop if beds are held constant in the face of a rising population; (2) take-up rates for complementary services are uncertain but they can be measured from pilot projects; similarly, mechanisms must be developed to ensure that the right people are receiving services; these matters should be researched with the greatest urgency; and (3) proof of cost-effectiveness in alternative programs may be an unrealistic and unnecessary ideal; in this respect, it is

worth remembering that the cost-effectiveness of the present health delivery system has not been demonstrated either.

Beyond these arguments is another economic consideration: if the province is able to hold the line on institutional growth, a sizeable sum of money that is at present considered affordable would be saved. Some of that money could justifiably be directed into services that supplement institutional care. For example, we have estimated here that about 10.4 per cent of the institutional expenditures on the elderly might be saved if patients were placed in the right institution. This represents $101.2 million, or about nineteen times the amount expended on Ontario's chronic home care program in fiscal 1978–79 (see Chapter 3). Savings might also be realized from otherwise necessary capital expenditures on active treatment beds (see Table 60).

The point is clear enough. Expenses on institutional care need not, and undoubtedly will not, be as high as straight-line projections forecast. However, in its enthusiasm for increasing efficiency the government must recognize that it cannot 'accomplish more for less' (Carman, 1978b) simply by reducing the supply of institutional and other services. Such a policy will merely accomplish 'less for less' and may result in long-term inefficiencies in the care of the elderly.

Co-ordination of services

The second policy implication arising from this study is the need for more co-ordination of care services to the elderly. Chapter 5 presented the several factors that bear on health care utilization and costs among the aged. The importance of co-ordination can be best seen by viewing those variables. They are highly interrelated; so too must be the planning and management of the delivery system that integrates these factors. At the provincial level this implies that policy development in such diverse fields as health, housing, income maintenance, and social services must be considered as a whole. Similarly, planning bodies at the district or local level must broaden their focus on health services to include the delivery of all social and health services.

The management of services to the aged must also be subjected to some kind of co-ordinating mechanism. Two kinds of mechanisms have been developed in Ontario – the Baycrest Centre for Geriatric Care in Toronto and the Placement Co-ordination Service of the Hamilton-Wentworth District Health Council. Baycrest provides a full range of institutional and out-reach services under a single integrated administration, while the placement co-ordination service tries to ensure the most suitable placement of individuals in programs available in the locality. It is not certain that the Baycrest model

can be widely implemented. It is a mixture of programs that are geographically close and ethnically homogeneous. These unusual conditions facilitate a unified approach to management that may be difficult to duplicate in other areas.

The deficiencies of placement co-ordination services have already been addressed in Chapter 3. Principal among them are the lack of authority of such services to determine where patients go and the disjointed and autonomous nature of the health care system. Notwithstanding the limitations of these programs, both types still have much to offer. Although unified administration may not be possible in most communities because of the geographical distances between services, at a minimum, however, liaison among services is both feasible and desirable. Placement co-ordination can help older persons and providers to select the most suitable type of care. This influence might even be strengthened by making insurance coverage contingent on compliance with the decisions of placement services (Woods, Gordon, 1976a).

Chapter 7 discussed the cost advantages of a more co-ordinated institutional system. An estimated excess of 10.4 per cent, or $101.2 million, is spent on the institutional care of the aged owing to misplacement. However, it is not likely that savings would be as large as estimated because persons placed in levels of care that exceed their needs may actually be consuming services at less than the average per diem rate. This argument suggests the possibility of co-ordinating services through more efficient reimbursement. That is, institutions might be reimbursed according to the characteristics of the patients they are serving. (Diggs and Easter, 1974; Gillespie, 1978; Ruchlin et al., 1975; Weaver, 1977). This could be done by correlating information on the health and other relevant characteristics of patients, and the direct and indirect cost of their care (Winn, 1975).

Notwithstanding the complexities of applying such a scheme, cost reimbursement might prove doubly beneficial to the co-ordination of the institutional care of the elderly. First of all, it would provide valuable planning data that could be used to prepare for future exigencies. For example, the relative costs of caring for young-old, middle-old, and old-old patients might be revealed in this process. This crucial information was completely lacking in this study. The second advantage of actual cost reimbursement is that it would, from a cost standpoint, permit a more flexible use of institutional resources. Elderly patients would not necessarily have to be shunted from one level of care to another as their conditions changed. This has been viewed as one of the less desirable consequences of 'progressive patient care' in the United States. (McGuire, 1975; Stimson and Stimson, 1976), Great

Britain (Bagnall et al., 1977), and Canada (Skoll, 1976). Instead, more heterogeneous groups of patients could be retained at a given level of care without undue concern about cost inefficiencies. This might be particularly useful in institutions that provide more than one level of care; it would probably apply to the entire long-term care sector including chronic, rehabilitation, extended, and residential types. Also, such a reimbursement scheme would have advantages in smaller communities that do not have every kind of institution.

The importance of flexibility

This study has reviewed the determinants of health care expenditures on the elderly and has come to the conclusion that they are extremely dynamic and interrelated. Similarly, demographic trends affecting this group were discovered to be vigorous and dynamic. The health care system that faces those circumstances is characterized by a nearly monolithic institutional and medical orientation and is rigidified by jurisdictional and professional boundaries. The result is excessive utilization of, and costs in, the institutional sector, the prospect of doubled and trebled demand for services in future years, and costly inefficiencies today.

Two main policy implications emerge from this analysis: the need for community services that would complement the institutions, and the co-ordination of programs. Both implications stem from a single criterion for the planning and administration of services to the aged – *flexibility*. The changing nature of health care needs and demographic developments among Ontario's aged population demands a flexible response. This will only occur if policymakers in all fields affecting the social welfare of the elderly integrate their planning efforts. Likewise, agencies responsible for providing services, particularly in the social and health services, must find ways to co-ordinate their activities on behalf of the old.

The inflexibility, fragmentation, and specialization that are typical of Ontario's present care network may have disastrous consequences, especially within a shrinking economy and an aging society. This is perhaps best dramatized in an image. The Canadian population has been compared to a python that has swallowed a whole pig. The pig, which represents the baby boom cohort advancing toward old age, slowly passes through the snake, enlarging its contours as it goes along. The image is meant to portray the stresses that this large group will place on every aspect of social activity. We can only hope that this image is the right one, since the python's skeleton organs, and membranes are flexible enough to allow it to digest the pig. If they were not, the python would strangle.

SUMMARY AND CONCLUSIONS

This study has stressed the great importance of considering our aging population in our planning and providing for health services in Ontario, and has also emphasized the markedly different degrees of needs between the young-old (65–74), the middle-old (75–84), and the old-old (85+). It has been shown that the determinants of expenditures on the health care of the elderly are many and interrelated, consisting of health-associated factors and socio-economic and demographic influences, as well as the organization of the health care system. An analysis of the social and health care system serving the aged in Ontario revealed strong institutional and medical components. Care in the community, especially by non-medical personnel, however, is less evenly and thoroughly distributed. Furthermore, co-ordination among different services is hampered by governmental, legal, and funding differences.

Our analysis of the cost of institutional services to the aged isolated five types of care: active-treatment, long-term, extended, residential, and psychiatric care. Expenditures on the last four types were allocated between persons above and below 65 according to the total patient days required by those groups in each category. The same approach was followed in active treatment care. However, our results were not the same from allocating costs in general hospitals as a whole and apportioning them by individual institution.

Primarily, this difference was ascribed to the heterogeneity of the general hospital program, which, in addition to active treatment care, provides long-term and psychiatric services as well as out-patient, research, and educational programs. Consequently, we decided to isolate expenditures on those services using a cost-accounting technique known as 'step-down cost analysis.' Step-down costing permitted us to distribute primary service expenses by allocating the secondary and tertiary expenditures that contributed to them. Since Canadian hospitals do not usually keep records for cost analysis purposes, allocation criteria had to be specified with data from a small sample of hospitals and in some cases from the impressions of authorities in the field.

Once isolated, active treatment costs were allocated between the young and the old with the aid of age-adjustment coefficients obtained from the literature. Unfortunately, we could not find any Canadian data on age differences in the use of such active treatment services as radiology, laboratory, drugs, and particularly nursing care. Hence, the adjustment coefficients used are based entirely on American research.

Apportionment of all institutional costs between persons above and below age 65 revealed that in 1976 the aged required $973.6 million in services, or 46.1 per cent of all institutional costs accounted for Ontario in that year. Per capita, $1307.60 was expended on the institutional care of the elderly as compared to $151.44 for the non-elderly and $255.70 for the general population.

Allocation of non-institutional costs was restricted to four categories: physician expenditures, for which age distributions are obtainable from OHIP, out-patient, dental, and drug costs. Apportionment of other non-institutional costs was not feasible because of a lack of fiscal or utilization information on them. Persons 65 and over were responsible for 15.0 per cent of all non-institutional expenditures examined. Per capita, this translates into costs of $360.12. The corresponding figure for persons under 65 is $200.94.

After specifying utilization and costs for 1976, we estimated future expenditures on the basis of changes in the population of Ontario expected in ten years (1986), twenty-five years (2001), and fifty years (2026). Those projections showed that, at current (1976) rates of utilization, the aged are expected to account for an ever growing share of total institutional and medical costs. From 38.3 per cent in 1976, it is estimated that the proportion will rise to 46.5 per cent in 2001 and 56.6 per cent by 2026 as the baby boom cohort enters old age.

Of course, those projections are not inevitable since changes in any one of the cost determinants may influence future utilization rates. In particular, a reduction in bed-to-population ratio in active treatment care was examined for its likely effects on the utilization of hospital services. While the government's present intentions of lowering the ratio to 3.5 per 1,000 were shown to result in 35 per cent fewer patient days than projected in 2026, evidence from placement studies and an examination of diagnoses and lengths of stay among elderly persons in active treatment beds suggested that a preferable reduction would lie in the 15 to 25 per cent range. Choosing a mid-range of 20 per cent, we calculate capital savings on projected active treatment needs among the aged to be $367.8 million in 2001 and $596.5 million in 2026.

With regard to operational costs, data from the Placement and Support Services Information System were used to assess the fiscal implications of placing patients in the wrong kind of institution. Assuming a misplacement rate of 20 per cent in active care, we estimated that $101.2 million could be pared from the institutional sector if aged persons were placed in the right kind of institution. This was further shown to result in absolute savings on projected costs amounting to $186.9 million in 2001 and $299.9 million in 2026.

In discussing the findings of this report, we concluded that Ontario relies heavily on institutions to care for its elderly population. Our estimates show that on any given day the province has as much as 8.9 per cent of its population 65 years and over in institutions. That proportion ranks third among the provinces of Canada and is well ahead of the rates for England and the United States. We also analysed the fiscal consequences of Ontario's emphasis on institutions. Slightly over three-quarters of the health expenditures on the aged analyzed here were for institutions. Ontario spends 31 per cent more per capita than the United States on the institutional care of its aged.

Several general policy implications may be drawn from these findings. It is evident that health care and social services to the elderly will not contribute to national productivity and economic wealth. Rather such services should be seen as, and publicly stated to be, the mark of distinction of a civilized society. It would be valuable for the provincial and federal governments to establish and proclaim a public policy assuring the continuation of concern and support for the elderly.

The costs to society of caring for the elderly are both private and public. The private costs are borne by the elderly individual, his family, and his friends and, although undoubtedly very considerable, they have not yet been adequately scientifically evaluated. Our contacts and interviews with elderly Ontarians lead us to believe that with encouragement and support the majority of the elderly can and wish to deal with their personal care problems in their own homes. Adequate income is of extreme importance in old age for avoiding premature dependency. We are also convinced that a much greater variety of sheltered housing is necessary to enable the elderly to remain out of institutions. Many, especially of the young-old, already provide assistance to the old-old (for example, daughters of 65 or so look after their mothers of 85+). Public policies and services must avoid diminishing or discouraging such endeavours, both on humanitarian and economic grounds. Older people also need to remind themselves of their own responsibility to themselves, their families, and to the rest of society. Part of this responsibility is to help prepare themselves properly for the retirement years.

We have examined here the public costs of health care and related services. Within the limits of the data available, we have found that whereas the elderly use and benefit greatly from social and health services, there appear to be inefficiencies: some of their needs are not sufficiently assessed or met, and at the same time for many, the system provides expensive services unsuited to their needs and discouraging to their self sufficiency, self-esteem, and initiative. More research studies are needed to identify in greater detail the health care needs of the elderly, especially the group at

greatest risk owing to chronic disability or extreme old age, and how those needs can be met effectively, efficiently, and compassionately.

The reasons for our excessive institutional care of the elderly include geography, climate, family mobility, the changing role of women, and the institutional bias of our health insurance system (Schwenger and Gross, 1980). In curbing the supply of institutional services, we must avoid the opposite extreme of under-institutionalization, which would put excessive pressure on older people, their families, and the community to sustain unbearable psychological, social, and financial costs of care at home. Also to be avoided is unnecessary relocation of the elderly. It is wrong to move very old people who have been in institutions for a very long time, merely in the interests of a more efficient health system. One must also assess very carefully the so-called benefits of community care if in fact there are a few services and facilities actually available in the community. Finally, there comes a time when institutions become quite appropriate and should be welcomed for the small, but rapidly increasing proportion of elderly Ontarians who are 85 and over.

Alternatives to institutions must, however, be considerably expanded, at the same time as the institutional supply is restrained, if the government intends to make a significant reduction in our exceedingly high rates of institutional utilization. Also the elderly need more information about the alternatives that do exist, and they need transportation in order to make use of those services. In every institutional and non-institutional service there should be a clear understanding and statement of its purpose and how it should be used; an assessment of the needs of individuals and the benefit they can receive from the service, and an evaluation of the effectiveness and cost effectiveness of the program. Research is needed to develop the instruments and methods and to conduct such evaluations. Although funding of research must in large part come from government, the research should be conducted by competent interdisciplinary research centres.

Co-ordination of the planning and management of services to the aged is imperative if the health care system is to meet the many needs of this group more successfully and efficiently. This co-ordination and planning must extend all the way from the provincial to the regional and local levels. Above all, given the large changes expected in the age structure of the Ontario population, policy approaches must emphasize flexibility in the delivery and use of services.

Finally health professionals, especially primary-care professionals, need to be taught to understand the long-term care needs of the elderly in all types of community and institutional settings from the point of view of prevention

and support, as well as treatment and rehabilitation. They must be educated to work co-operatively and to evaluate the effectiveness of their endeavours.

Will all those elderly Ontarians looming on the horizon pose an overwhelming financial problem? Although already addressed in Chapters 4 and 5, this question still cannot be answered absolutely. While it is true that health expenditures are going to increase drastically because of the aging of the Ontario population, we should have confidence that we will have the ingenuity to apply adequate cost containment measures, a number of which have been discussed in this report. We must also have some faith in our ability to pay through future technological progress and in improvement in our economy.

Future elderly Ontarians are after all ourselves. If we can be persuaded to take more responsibility for living in healthier ways for preparing more carefully, both socially and economically, for our retirement, for accepting the challenge of providing a more supportive, caring community for one another, we can all help to lighten the burden of rising health costs. However, that can only be achieved by planning carefully and thoughtfully – now.

APPENDIX A

Methods of costing institutional health services to the elderly

This appendix describes the methods used to estimate present expenditures on aged persons for institutional health services. 'Present' refers to the calendar year 1976. Broadly defined, 'aged persons' are those who have reached or exceeded 65 years. Because of the important differences in health care needs among the aged, we shall concentrate, on three elderly sub-groups: the 'young-old' (65–74), the 'middle-old' (75–84), and the 'old-old' (85+). Service costs among the old will also be compared with costs for the rest of the population. Occasionally this is divided into persons 0–19 and 20–64 years, which correspond respectively to the early years of dependency and the later years of independence.

Table A.1 lists the types of institutions and facilities included in the present analysis and shows the total number of days provided to persons of all ages in these institutions. A complete list of all public hospitals and units as well as private and provincial psychiatric institutions is contained in *Hospital Statistics, 1976* (OMH, 1976a). Nursing homes are those facilities licensed in 1976 under the Nursing Home Act. Homes for the aged include all charitable and municipal homes for the aged operating in 1976 under the direction of the Senior Citizens Branch, Ontario Ministry of Community and Social Services. 'Other psychiatric hospitals' are the Clarke Institute, the Donwood Institute, and the Clinical Institute of the Alcoholism and Drug Addiction Research Foundation.

AGE FACTORS IN ESTIMATING INSTITUTIONAL COSTS

Physiological and functional status differ between the young and the old. The diseases of old age tend to be chronic and multiple and to result in lengthy disability and restrictions on normal activities. These circumstances worsen

TABLE A.1
Institutional types of care and facilities included in the study

Type of care	Type of facility	Number	Total days provided
Active treatment	Public general hospitals	202	10,345,555
Long-term	Public chronic hospitals	19	1,254,910
	Private chronic hospitals	15	169,830
	Chronic units[a]	109	1,263,338
	Rehabilitation units[a]	13	99,694
	Rehabilitation hospitals	9	561,820
	Sub-total	165	3,349,592
Extended	Nursing homes	381	9,218,808
	Homes for the aged	180	4,065,437
	Sub-total	561	13,284,245
Residential	Nursing homes	381	708,576
	Homes for the aged	180	5,087,452
	Sub-total	561	5,796,028
Psychiatric	Provincial psychiatric hospitals	15	1,691,098
	Other psychiatric hospitals	3	88,515
	Psychiatric units[a]	53	556,406
	Sub-total	71	2,336,019
Total		–	35,111,439

a Located in Public General Hospitals
SOURCE: Data provided by OMH and the Ontario Ministry of Community and Social Services

with increasing age. Among the elderly, health care needs become progressively more severe for the middle- and old-old than for the young-old. It is quite likely that age differences in health status are correlated with variations in average per diem costs. The problem is that in all types of institution except active-treatment care, little or no empirical research has been done into the relationship of age to per diem costs. Consequently, costing studies of this type must rely on average per diem costs for all ages to isolate expenses for the elderly. For any given type of institutional care, costs are therefore calculated as the product of the number of days used by persons over 65 and the average per diem rate for that type. This approach is followed in all types of institution except active treatment care (ATC). Per diem rates in ATC are adjusted according to age differences revealed by other studies.

Facility factors in estimating institutional costs

In addition to patient factors, differences in service mix, input costs, and efficiency status produce variations in average per diem expenses among health care facilities. This problem is dealt with at some length by Fraser et al., 1975 (see also OCH, 1976), who attempts to estimate cost variation in the institutional care of patients with various diseases. Fraser and his co-workers used two approaches for their estimates, the first based on the 'global average cost' and the second on 'institutional average costs.' Simply stated, the global approach assumes that the average daily cost of care for a patient is the same across all facilities. The institutional approach is based on the assumption that there are important differences in average daily costs among institutions. Because it is more refined, the institutional costing approach is the method of choice in this analysis.

DATA SOURCES AND LIMITATIONS

Two basic kinds of data are needed to estimate institutional costs for the aged: information about production units, i.e. days of care; and expenditure information for calculating the price of those units. The following sections explain the source and limitations of the data on utilization and expenditure examined in this study.

Utilization data on institutional services

Data on institutional health services usually fall into one of two categories: patient-specific and budgetary. The first type concern patient characteristics such as age, sex, diagnosis, procedures, length of stay, and so on. Budgetary data relate to such variables as operating costs, paid hours, and the production of patient days. The former are usually collected at the end of a fiscal year. The latter are gathered, however, at the end of each care episode. In accordance with this pattern, patient-specific data on care days are counted and ascribed to the patient when he or she is discharged or 'separated' from a program. In this study, we designate such days as separated patient days or SPDs. Budgetary data, on the other hand, are based on the total number of patient days or TPDs provided by the program during the fiscal period.

This is an important distinction because this study is concerned with cost variation by age. Cost data are budgetary, while age data are patient-specific. Hence the independent budgetary feature of TPDs and the patient-specific information inherent in SPDs must be combined. This is done by estimating the age distribution of TPDs on the basis of SPDs, a method that is used here on active-treatment, long-term, and psychiatric care data.

With regard to the sources of data used in this study, patient-specific utilization information for most institutional types has been provided by the Data Development and Evaluation Branch of the Ontario Ministry of Health (OMH). This comes from three primary source files. File 106 contains discharge data on patients in the public general hospitals, rehabilitation hospitals, and 'other psychiatric hospitals' listed in Table A.1. The 118 File contains information on patients in all chronic beds, including those in public and private hospitals and chronic units of general hospitals. Utilization data on patients in provincial psychiatric institutions and psychiatric units are taken from the 'psychiatric file.' The OMH also publishes utilization and expenditure figures for most health facilities in its annual statistical report (see OMH, 1976a). Information about TPDs, with exceptions that will be identified later, have been taken from this publication.

Age distributions of care days in nursing homes and homes for the aged are not estimated according to SPDs. Because people tend to stay much longer in these facilities, SPDs are not a useful measure of utilization at the extended and residential levels of care. Data on the age and sex of patients is recorded, however, in monthly and yearly census counts, which can then be extrapolated to estimate the experience of an entire year. This method has been applied to 1976 statistics in the extended and residential care sectors. Again, the Data Development Branch provided the utilization figures on nursing homes. The Senior Citizens Branch of the Ontario Ministry of Community and Social Services furnished similar data for homes for the aged.

Expenditure data on institutional services

Expenditure data are the second main kind of information needed in an assessment of program costs for the aged. The sources and quality of such information vary across institutional and facility types. All public hospitals, including the general hospitals and their units, rehabilitation, chronic, and 'other psychiatric hospitals' included in Table A.1 are required to submit detailed annual expenditure accounts to government funding agencies. They are reported on the form 'Annual Return of Health Care Facilities/Hospitals/ Parts One and Two.' (Hereinafter referred to as HS-1 and HS-2.) HS-1 contains detailed budgetary information, which is audited and summarized in HS-2. Although audited figures are preferable, the data in HS-2 are too aggregative for the purposes of this study. Therefore, HS-1 data supplied by the Data Development and Evaluation Branch of the Ontario Ministry of Health are used here. Discrepancies between audited and unaudited costs were found to be slight. For example, the total unaudited operating expenses for the 202 general hospitals in Table A.1 are within one-quarter of 1 per cent of the audited figures.

Unlike public hospitals, provincial psychiatric hospitals report their costs for a fiscal year beginning on 1 April of each year to the Fiscal Resources Branch of the OMH. To approximate the costs for provincial hospitals in the calendar year 1976, one must therefore make adjustments to the expenditure data provided by the Branch. Only total cost figures are available on extended and residential care programs in nursing homes and homes for the aged. They have been furnished respectively by the Extended Care Accounting Section of the Ontario Ministry of Health and the Senior Citizens Branch of the Ministry of Community and Social Services.

COST ANALYSIS OF GENERAL HOSPITAL ACCOUNTS

As explained above, general hospitals account for their expenditures on the form HS-1. Direct costs are ascribed in HS-1 to over fifty expense categories. Table A.2 presents consolidated HS-1 expense categories together with the direct costs associated with each, summed for all 202 general hospitals. The thirty-two categories in Table A.2 are broken down into primary, secondary, and tertiary costs. Primary costs are those associated with the seven direct hospital services; secondary costs arise from diagnostic, paramedical, and ancillary services as well as administration; and tertiary costs consist of overhead, depreciation, maintenance, and dietary expenses as well as supply and dispensing costs.

The direct costs of each of the seven primary programs are isolated in Table A.2. However, direct costs are incomplete in so far as primary services benefit from activities accounted as secondary or tertiary expenses. For example, the floor space occupied by short-term care is secured, maintained, and cleaned by other departments. The costs of these tertiary activities are not included in item 26 however. They are 'hidden' in plant overhead and housekeeping expenses. Similarly, out-patient programs often require diagnostic assistance from the radiology and laboratory departments. Expenses for these secondary services are contained in items 17 and 18, while out-patient costs are reported in item 31. In fact dozens of cross-overs between cost categories are conceivable. Consequently, an allocation method is needed by which tertiary and secondary costs can be apportioned among primary service expenses.

The accounting technique used to reach this objective is cost analysis, a method that was originally developed in industry and has now been adapted to hospital data. In this regard, some methodological guidance is taken from the few Canadian hospital studies that use cost analysis. Evans and Robinson (1973) isolated the program costs for a day-care surgery unit at the Vancouver Children's Hospital in order to evaluate the economic implications of

TABLE A.2
Direct costs by expense categories for
Ontario general hospitals, 1976 (1976 dollars)

Expense categories	Direct cost ($)
Tertiary Costs	
1 Plant overhead	102,562,757
2 Building depreciation	25,239,269
3 Equipment depreciation	29,110,854
4 Employee benefits	121,080,016
5 Housekeeping	77,800,391
6 Laundry and linen	41,684,261
7 Dietary	129,100,831
8 Drugs	40,601,215
9 Pharmacy	15,686,823
10 Medical and surgical supplies	54,024,049
11 Central supplies	20,586,990
Secondary costs	
12 Medical departments	18,022,365
13 Motor transport and ambulance	10,671,029
14 Medical records and library	22,675,870
15 Electrocardiography	5,544,138
16 Electroencephalography	2,898,850
17 Radiology	70,730,602
18 Laboratory	116,729,698
19 Nuclear medicine	7,260,319
20 Respiratory technology	6,158,202
21 Social work	7,601,945
22 Physiotherapy	20,070,833
23 Occupational therapy	5,012,544
24 Nursing administration	31,824,703
25 General administration	141,203,437
Primary costs	
26 Short-term care	335,908,374
27 Maternity-paediatric care	88,558,394
28 Long-term units	31,803,440
29 Psychiatric units	17,342,452
30 Surgical care	55,071,363
31 Out-patient services	60,165,960
32 Research and education	65,578,806
Total	1,778,310,780

SOURCE: Consolidated from HS-1 data supplied by the OMH, Data Development and Evaluation Branch

delivering non-admission surgical care. In a series of studies done for the Association of Canadian Medical Colleges between 1965 and 1967, the expenses for medical education in several large teaching hospitals were segregated for analysis by cost-accounting procedures (summarized in Horne et al., 1970). Finally, the *Canadian Accounting Manual Supplement* (CHA, 1974) contains an illustrative cost analysis of expenditure data supplied by the Ottawa Riverside Hospital. All of those studies use a basic cost analysis procedure known as 'step-down cost accounting', which assigns to each primary service all the direct and indirect costs that contribute to its production. The step-down method is elaborated in the following two sections, which address, respectively, the allocation of tertiary and secondary costs.

Allocation of tertiary costs

Tertiary expenses are the first to be allocated when one is estimating the full costs of the seven primary general hospital programs. Theoretically, the direct costs for each tertiary centre are divided among all secondary and primary areas according to their relative contribution to tertiary costs. For example, if the real cost of operating the long-term units was $x of overhead (i.e. plant operation, security, and maintenance) and $y of care-taking, these amounts would be deducted, respectively, from the direct costs of plant overhead and housekeeping. After all of the departments making demands on overhead and custodial services have been accounted for, these two tertiary areas are depleted or 'closed down' and their direct costs divided among other cost centres. This procedure is followed for each of the tertiary cost categories until all expenses are allocated among secondary and primary areas.

This theoretical approach is the foundation of step-down cost analysis, although its practical application is somewhat different. Some tertiary cost categories like drugs and medical and surgical supplies are composed of discrete units that are easy to count. Allocation schemes for these expenses are therefore inherent: that is, they are based on the actual distribution of costs across hospital departments. Other categories such as overhead and housekeeping are non-discrete services, whose costs are more difficult to assign. Hence, proxy criteria are needed to allocate them. Table A.3 displays the allocation criteria that are usually used to apportion tertiary costs.[1] The departmental distribution of each criterion shown in Table A.3 is applied to the corresponding tertiary cost to divide it among secondary and primary services.

1 For examples of other studies using these criteria, see CHA (1947), Evans and Robinson (1973), and Horne et al., (1970).

TABLE A.3
Operational criteria for allocating tertiary costs

Tertiary costs	Allocation criteria
Plant overhead	Square footage floor space
Building depreciation	Square footage floor space
Equipment depreciation	Actual equipment depreciation
Employee benefits	Salaries and wages
Housekeeping	Square footage floor space
Laundry and linen	Poundage laundry and linen
Dietary	Meal-days
Drugs	Actual drug costs
Pharmacy	Same as drugs
Medical and surgical supplies	Actual supply costs
Central supply	Same as medical and surgical supplies

SOURCE: See explanation in this appendix

In order to accomplish this division, we must specify the distribution of each allocation criterion. This kind of information is not usually kept by hospitals. For that reason cost analysis cannot be applied separately to each of the 202 hospitals. What is possible and what is done here is to estimate average distributions of the allocation criteria for all hospitals. Table A.4 exhibits estimated distributions of floor space, equipment depreciation, laundry and linen poundage, cost of drugs and medical and surgical supplies as well as salaries and meal-days. Distributions of the latter two categories are taken from HS-1 data for all 202 hospitals.

Before tertiary costs are apportioned among secondary and primary services, a final preliminary issue must be resolved. It is evident from Table A.4 that the allocation schedules call for a distribution of some tertiary costs to other tertiary categories. For example, housekeeping is responsible for cleaning the estimated 4.0 per cent of floor space occupied by laundry and linen, while at the same time the latter area provides 1.5 per cent of its poundage to the former cost centre. Such reciprocal servicing arrangements complicate the allocation of tertiary costs because it is difficult to decide in which order these costs centres should be closed down. In the previous example, housekeeping costs could be completely allocated according to schedule A and their share of laundry and linen expenses disregarded. Alternatively, it is possible to apportion laundry and linen first and, once this area is shut down, to ignore the costs it creates for housekeeping. Each method will produce different results.

TABLE A.4
Percentage distribution of allocation criteria to be applied to tertiary cost categories

Expense categories	Allocation criteria[a] A	B	C	D	E	F	G
Tertiary costs							
1 Plant overhead	–	4.0	0.5	–	–	3.18	–
2 Building depreciation	–	–	–	–	–	–	
3 Equipment depreciation	–	–	–	–	–	–	–
4 Employee benefits	–	–	–	–	–	–	33.98
5 Housekeeping	–	1.0	1.5	–	–	5.39	–
6 Laundry and linen	4.0	4.5	–	–	–	1.35	–
7 Dietary	9.0	8.0	1.5	–	–	6.41	–
8 Drugs	–	–	–	–	–	–	–
9 Pharmacy	1.0	0.5	–	–	–	1.18	–
10 Medical and surgical supplies	–	–	–	–	–	–	–
11 Central supplies	2.0	3.0	–	–	–	1.58	–
Secondary costs							
12 Medical departments	0.5	2.0	1.0	2.0	–	1.08	–
13 Motor transport and ambulance	–	–	–	–	–	0.75	–
14 Medical records and library	1.5	2.0	–	–	–	1.64	–
15 Electrocardiography	0.5	1.0	0.5	–	–	0.43	–
16 Electroencephalography	0.5	1.0	–	–	–	0.22	–
17 Radiology	4.5	14.5	2.5	5.0	0.5	4.60	–
18 Laboratory	6.0	8.0	1.0	1.5	1.0	7.47	–
19 Nuclear medicine	0.5	1.0	–	–	–	0.40	–
20 Respiratory technology	0.5	1.0	0.5	3.0	1.0	0.47	–
21 Social work	0.5	–	–	–	–	0.60	–
22 Physiotherapy	1.0	1.0	2.0	–	0.5	1.55	–
23 Occupational therapy	0.5	0.5	0.5	–	–	0.38	–
24 Nursing administration	1.0	0.5	–	–	–	2.52	–
25 General administration	7.0	7.0	0.5	–	–	7.80	–
Primary costs							
26 Short-term care	35.0	19.0	43.0	42.5	32.0	26.52	43.38
27 Maternity-paediatric care	7.5	4.0	15.0	7.0	9.0	7.03	11.26
28 Long-term units	6.0	1.0	7.0	2.5	1.0	2.51	6.82
29 Psychiatric units	3.0	0.5	1.0	1.5	–	1.37	2.90
30 Surgical care	4.0	12.0	12.0	25.0	42.0	4.33	–
31 Out-patient services	4.0	3.0	10.0	10.0	13.0	4.64	1.66
32 Research and educaiton	–	–	–	–	–	4.60	–
Total	100.0	100.0	100.0	100.0	100.0	100.00	100.00

a Allocation criteria legend:
A Square footage floor space; B Equipment depreciation; C Poundage laundry and linen; D Drug costs; E Costs of medical and surgical supplies; F Salaries and wages; G Meal-days
SOURCE: For sources of Allocation Criteria A to E, see Gross (1978); Criteria F and G are derived from HS-1 data supplied by the OMH, Data Development and Evaluation Branch.

The most satisfactory solution to the problem of inter-area flows is to close down all of the affected cost centres at the same time. This approach is suggested and explained by Evans and Robinson (1973). Basically, it entails the specification of each tertiary area in a set of equations, which are then solved simultaneously. In this instance seven equations indicating the reciprocal relationships among plant overhead PO, building depreciation BD, equipment depreciation ED, employee benefits EB, housekeeping HK, laundry and linen LL, and dietary DT cost centres are set down. Each equation is built of the direct and indirect expenses contributing to the total costs of a given tertiary category. With respect to plant overhead, for example, Table A.2 shows a direct cost amounting to $102,562,757. Table A.4 shows that PO also accounts for 4.0 per cent of equipment depreciation (0.04 ED), 3.18 per cent of employee benefits (0.0318 EB), and 0.5 per cent of laundry and linen (0.005 LL). Using this information, the following equation specifies PO costs:

$$\text{PO} = 102, 562, 757 + 0.04\ \text{ED} + 0.0318\ \text{EB} + 0.005\ \text{LL}$$

Similarly, equations for the other cost-centres are derived as follows:

$$\text{BD} = 25, 239, 269 \text{ (as given)}$$
$$\text{ED} = 29, 110, 854 \text{ (as given)}$$
$$\text{EB} = 121, 080, 016 + 0.3398\ \text{DT}$$
$$\text{HK} = 77, 800, 391 + 0.01\ \text{ED} + 0.0539\ \text{EB} + 0.015\ \text{LL}$$
$$\text{LL} = 41, 684, 261 + 0.04\ \text{PO} + 0.04\ \text{BD} + 0.045\ \text{ED} + 0.0135\ \text{EB} + 0.04\ \text{HK}$$
$$\text{DT} = 129, 100, 831 + 0.09\ \text{PO} + 0.09\ \text{BD} + 0.08\ \text{ED} + 0.0641\ \text{EB} + 0.09\ \text{HK} + 0.015\ \text{LL}$$

The simultaneous solution of these equations yields the values shown below:

$$\text{PO} = 109, 617, 610$$
$$\text{BD} = 25, 239, 269 \text{ (as given)}$$
$$\text{ED} = 29, 110, 854 \text{ (as given)}$$
$$\text{EB} = 176, 693, 809$$
$$\text{HK} = 88, 429, 962$$
$$\text{LL} = 54, 311, 089$$
$$\text{DT} = 163, 666, 255$$

These values, made up of direct costs and the indirect inter-area expenses owing to each tertiary category, are now allocated according to the schedules

in Table A.4. Table A.5 details the step-down apportionment of tertiary cost centres. This table is unavoidably complicated and requires some explanation. Shown in column 1 are direct expenses for the thirty-two cost categories, which together sum to total operating expenditures in the 202 hospitals. Columns 2 to 10 exhibit the individual apportionment of each tertiary cost centre shown in items 1 to 11. Pharmacy expenses are allocated according to the distribution of drug costs; these two categories are grouped for convenience in column 9. Similarly, medical and surgical and central supply costs are apportioned together in column 10. Shown in each of columns 2 to 10 is a bracketed amount, which is the sum to be apportioned. In the case of building and equipment depreciation, drugs and pharmacy, and medical and surgical and central supplies, this amount is the same as the direct costs listed in column 1. For the remaining areas, the brackets contain sums calculated in the simultaneous equations above and are made up of both direct and inter-area costs.

The actual allocation procedure is fairly simple. Each italicized amount is divided among the other cost centres in accordance with the distribution scheme in Table A.4. Taking plant overhead as an illustration, its $109,617,610 is apportioned according to the distribution of floor space shown in column A of Table A.4. Hence, 4 per cent of this amount, or $4,384,704, is allotted to laundry and linen and 9 per cent, or $9,865,585, to the dietary area since these account, respectively, for 4 and 9 per cent of hospital floor area. In this manner all of the direct costs of each tertiary area are fully allocated. These direct expenses reappear as indirect costs to secondary and primary service areas. Direct and indirect costs are summed for each secondary and primary area in column 11. Taking the first of these for example, medical departments have a direct cost component of $18,022,365 as shown in column 1 of Table A.5. After tertiary costs have been allocated to this secondary area, its revised expenses amount to $23,387,449, or an additional $5,365,084. This means that medical departments, in addition to direct operating funds, require over $5 million in indirect overhead and supply expenditures to carry out their functions. Revised cost figures for all secondary and primary programs are shown as 'sub-totals' in column 11 of Table A.5.

Allocation of secondary costs

Secondary cost centres are allocated to primary areas by the same principles. Again, allocation criteria are required for apportioning and closing down these centres. Secondary services consist mainly of diagnostic and paramedical support that contributes directly to the care and treatment of inpatients

TABLE A.5
Step-down allocation of tertiary costs to secondary and primary cost centres (1976 dollars)

Expense categories	Direct costs (1)	Plant overhead (2)	Building depreciation (3)	Equipment depreciation (4)	Employee benefits (5)
1 Plant overhead	102,562,757	*109,617,610*[a]		1,164,434	5,618,863
2 Building depreciation	25,239,269	–	*25,239,269*[a]		
3 Equipment depreciation	29,110,854	–	–	*29,110,854*[a]	
4 Employee benefits	121,080,016	–	–	–	*176,693,809*[a]
5 Housekeeping	77,800,391	–	–	291,109	9,523,796
6 Laundry and linen	41,684,261	4,384,704	1,009,571	1,309,988	2,385,366
7 Dietary	129,100,831	9,865,585	2,271,534	2,328,868	11,326,073
8 Drugs	40,601,215	–	–	–	–
9 Pharmacy	15,686,823	1,096,176	252,393	145,554	2,084,987
10 Medical and surgical supplies	54,024,049	–	–	–	–
11 Central supplies	20,586,990	2,192,352	504,785	873,326	2,791,762
12 Medical departments	18,022,365	548,088	126,196	582,217	1,908,293
13 Motor transport and ambulance	10,671,029	–	–	–	1,325,204
14 Medical records and library	22,675,870	1,644,264	378,589	582,217	2,897,778
15 Electrocardiography	5,544,138	548,088	126,196	291,109	759,783
16 Electroencephalography	2,898,850	548,088	126,196	291,109	388,726
17 Radiology	70,730,602	4,932,792	1,135,767	4,221,074	8,127,915
18 Laboratory	116,729,698	6,577,057	1,514,356	2,328,868	13,199,028
19 Nuclear medicine	7,260,319	548,088	126,196	291,109	706,775
20 Respiratory technology	6,158,202	548,088	126,196	291,109	830,461
21 Social work	7,601,945	548,088	126,196	–	1,060,163
22 Physiotherapy	20,070,833	1,096,176	252,393	291,108	2,738,754
23 Occupational therapy	5,012,544	548,088	126,196	145,554	671,436
24 Nursing administration	31,824,703	1,096,176	252,393	145,554	4,452,684
25 General administration	141,203,437	7,673,233	1,766,749	2,037,760	13,782,117
26 Short-term care	335,908,374	38,366,164	8,833,744	5,531,062	46,859,198
27 Maternity-paediatric care	88,558,394	8,221,321	1,892,945	1,164,434	12,421,575
28 Long-term units	31,803,440	6,577,057	1,514,356	291,109	4,435,015
29 Psychiatric units	17,342,452	3,288,528	757,178	145,554	2,420,705
30 Surgical care	55,071,363	4,384,704	1,009,571	3,493,302	7,650,842
31 Out-patient services	60,165,960	4,384,704	1,009,571	873,326	8,198,593
32 Research and education	65,578,806	–	–	–	8,127,915
Total	1,778,310,780	109,617,609	25,239,267	29,110,854	176,693,807

Expense categories	House-keeping (6)	Laundry and linen (7)	Dietary (8)	Drugs & pharmacy (9)	Medical/surgical & central supplies (10)	Sub-totals (11)
1		271,555				
2						
3						
4			55,613,793			
5	*88,429,962*[a]	814,666				
6	3,537,198	*54,311,089*[a]				
7	7,958,697	814,666	*163,666,255*[a]			
8						
9	884,300	–	–	*60,751,448*[a]		
10	–	–	–	–		
11	1,768,599	–	–	–	*82,741,863*[a]	
12	442,150	543,111	–	1,215,029	–	23,387,449
13	–	–	–	–	–	11,996,233
14	1,326,449	–	–	–	–	29,505,167
15	442,150	271,555	–	–	–	7,983,019
16	442,150	–	–	–	–	4,695,119
17	3,979,348	1,357,777	–	3,037,572	413,709	97,936,556
18	5,305,798	543,111	–	911,272	827,419	147,936,607
19	442,150	–	–	–	–	9,374,637
20	442,150	271,555	–	1,822,543	827,419	11,317,723
21	442,150	–	–	–	–	9,778,542
22	884,300	1,086,222	–	–	413,709	26,833,495
23	442,150	271,555	–	–	–	7,217,523
24	884,300	–	–	–	–	38,655,810
25	6,190,097	271,555	–	–	–	172,924,948
26	30,950,487	23,353,768	70,998,421	25,819,365	26,477,396	613,097,979
27	6,632,247	8,146,663	18,428,820	4,252,601	7,446,768	157,165,768
28	5,305,798	3,801,776	11,162,039	1,518,786	827,419	67,236,795
29	2,652,899	543,111	4,746,321	911,271	–	32,808,079
30	3,537,198	6,517,331		15,187,862	34,751,582	131,603,755
31	3,537,198	5,431,109	2,716,860	6,075,144	10,756,442	103,148,907
32	–	–	–	–	–	73,706,721
Total	88,429,963	54,311,086	163,666,255	60,751,445	82,741,863	1,778,310,772

a Amounts in italics are the sums to be apportioned.

and outpatients. Inpatient costs are accounted for in the functional areas of short term care STC, maternity-paediatric care M-PC, long term units LTU and psychiatric units PU while outpatient expenses are included in the out-patient services OPS category. Hence, in allocating secondary cost centres, it is necessary to discover what portion of the diagnostic and paramedical service expenses are related to outpatients. Once these are segregated and allotted to OPS, allocation criteria for dividing the remaining inpatient costs between STC, M-PC, LTU, and PU can be applied.

Data are available from the HS-1 that will permit the isolation of outpatient costs for certain secondary functional areas. Specifically, ECG, EEG, radiology, laboratory, nuclear medicine, respiratory technology, physiotherapy, and occupational therapy are recorded in variously defined service units divided between inpatients and outpatients.

Assuming that the remaining services are related to inpatients, the next step is to divide them among STC, M-PC, LTU, and PU. Because of the non-descript composition of medical departments, we decided to allocate those costs to inpatient categories on the basis of patient days. Likewise, because of the difficulties of assigning costs for motor transport and ambulance, and medical records and library, these expenses are also apportioned according to the distribution of patient days.

A more refined method was adopted with the remaining diagnostic and paramedical costs. Although we could not find any quantitative studies that showed the distribution of these costs by inpatient type of care, we were able to interview people who had some idea of how secondary services relate to inpatient programs. Hence information on the likely shape of these distributions was sought from several expert sources: Particular weight was given to the observations of OMH consultants because we believed they had a more generalized overview of service practice in the province. Having specified the allocation criteria in this fashion, we stepped down the secondary costs in the same manner illustrated with tertiary costs. The resulting estimate of expenses assigned to each primary service area is shown in Table A.6.

The second column of Table A.6 summarizes direct plus allocated tertiary and secondary costs for each of the primary hospital services. As is evident from the percentage column, STC accounted for more than one-half of all expenses incurred in the 202 general hospitals in Ontario in 1976. Active treatment care, which comprises STC M-PC, and surgical care, was responsible for 72.81 per cent of all hospital expenditures in this period. LTU and PU expended much lesser amounts, and out-patient, research, and education together accounted for 18.96 per cent of all hospital costs. The last finding is interesting in so far as those programs have no direct bearing on inpatient

TABLE A.6
Distribution of general hospital costs to primary cost centres

Primary services	Costs	
	dollars	percentage
Short-term care	932,366,044	52.43
Maternity-paediatric	212,384,864	11.94
Long-term units	94,459,329	5.31
Psychiatric units	51,944,374	2.92
Surgical care	150,033,277	8.44
Out-patient services	255,478,909	14.37
Research and education	81,643,976	4.59
Total	1,778,310,773	100.00

SOURCE: Gross (1978, 107)

care. One can judge from their magnitude the inflationary bias built into crude per diem rates that include non-inpatient costs.

To summarize our progress to this point: we have used the accounting method known as 'step-down cost analysis' to isolate total expenses for each primary hospital service. Costs for the constituents of active treatment care, i.e. STC, M-PC, and surgical care have been estimated as have expenses owing to LTU, PU, OPS, and research and education. The reason for going through this exercise is to segregate costs into more homogeneous categories, which can then be divided between older and younger patients. Of the seven primary cost centres, research and education and outpatient services are not a part of direct inpatient care and are not, therefore, considered further. Surgical care costs and short-term care costs have been allocated between the old (65+) and the young on the basis of empirical studies, primarily American, which have shown age differences in the utilization of these services. The detailed analysis, presented elsewhere (Gross 1978), shows that the elderly tend to consume more short-term care resources (e.g. drugs, radiology, laboratory, ECG, and physiotherapy) per unit or per day of service than younger inpatients. Similarly, surgical times appear to be longer for older patients than for the young. These findings, drawn from empirical research, have been used to adjust the allocation of costs for surgical and short-term care.

Long-term and psychiatric unit costs are allocated between the ages on the basis of patient days used by either group. Since it can be safely assumed that

TABLE A.7
Allocation of active-treatment care costs to aged and non-aged inpatients by primary service components, Ontario general hospitals, 1976 (1976 dollars)

Primary service	All ages	0–64 years	65+ years
Short-term care			
Cost ($)	932,366,044	511,692,426	420,673,618
Patient days	8,701,472	5,194,245	3,507,227
Per diem ($)	107.15	98.51	119.94
Maternity-paediatric care			
Cost ($)	212,384,864	212,384,864	0
Patient days	1,644,083	1,644,083	0
Per diem ($)	129.18	129.18	0
Surgical care			
Cost ($)	150,033,277	128,728,552	21,304,725
Cases	577,689	507,653	70,036
Per diem ($)	259.71	253.58	304.20
Total			
Cost ($)	1,294,784,185	852,805,842	441,978,343
Patient days	10,345,555	6,838,328	3,507,227
Per diem ($)	125.15	124.71	126.02

SOURCE: Gross (1978, 118)

no geriatric patients use maternity or pediatric services, all costs for these have been assigned to persons under 65 years.

SUMMARY OF GENERAL HOSPITAL COSTS

Table A.7 summarizes the allocation of active treatment care costs between the young and old. Included are each of the primary service components of ATC, namely short-term, maternity-paediatric, and surgical care. On a per diem basis, ATC expenditures on the old and young are quite close to the average of $125.15. Within the ATC category, however, age variation is strikingly evident. STC to the elderly appears to be appreciably more expensive: $119.94 compared to $98.51 a day. The better part of this difference is due to the upward adjustment of nursing care costs. Indeed, there is a difference of $14.27 in the per diem rates for nursing younger and older patients. This explains about two-thirds of the age variation in total daily STC expenses.

TABLE A.8
Allocation of general hospital costs to aged and non-aged inpatients in active, long-term, and psychiatric care, Ontario 1976 (1976 dollars)

Type of care	All ages	0–64 years	65+ years
Active-treatment care			
Cost ($)	1,294,784,185	852,805,842	441,978,343
Patient days	10,345,555	6,838,328	3,507,227
Per diem ($)	125.15	124.71	126.02
Long-term units			
Cost ($)	94,459,329	26,146,342	68,312,987
Patient days	1,363,032	377,326	985,706
Per diem ($)	69.30	69.30	69.30
Psychiatric units			
Cost ($)	51,944,374	46,718,770	5,225,604
Patient days	556,406	500,432	55,974
Per diem ($)	93.36	93.36	93.36
Total			
Cost ($)	1,441,187,888	925,670,954	515,516,934
Patient days	12,264,993	7,716,086	4,548,907
Per diem ($)	117.50	119.97	113.33

SOURCE: Gross (1978, 119)

As mentioned earlier, long-term psychiatric care costs are not subjected to the same type of age adjustments employed with STC. Rather, we assume that per diem rates for the old and young are the same. Hence the allocations of long-term and psychiatric unit expenses are based on the proportions of patient days used by the age groups in each of those primary services. These proportions have been estimated from data on separations. Table A.8 summarizes the distribution of long-term, psychiatric, and active-treatment costs, which together total the inpatient expenses for the 202 general hospitals in this analysis.

The bottom line of Table A.8 shows an average $6.64 difference in the per diem rates of general hospital inpatient care for the old and young. Viewed from this perspective, a typical inpatient day for the young is about 6 per cent more expensive than one for the aged. This is so despite the much higher STC costs for the elderly. A few trends explain this phenomenon. First, there are no aged patients in the most expensive form of care, M-PC. Secondly,

although the per case costs of surgery tend to be more for the old than the young, the latter group has about seven and one-quarter times as many operations. Thirdly, the aged predominate in the least expensive category – long-term units. Those three factors depress the average per diem for the elderly to a point below that of the non-aged.

LONG-TERM CARE

Long term care (LTC) consists of institutional services delivered in the chronic and rehabilitation facilities of Ontario. The methodological explication of LTC is simpler than that required for ATC. This is because of the fundamental assumption that LTC is, at least from a cost standpoint, a more homogeneous program provided to less diverse groups of patients. What is more, part of the task has already been done in the allocation of general hospital long-term unit costs between the aged and non-aged. The remaining apportionments can, therefore, be reduced to a few straightforward steps:

1 Focus separately on each type of facility providing LTC. These include public chronic hospitals, private chronic hospitals, and rehabilitation hospitals

2 Within these three types, determine the gross operating costs for each facility net of expenses for ambulatory care, research, and education

3 Estimate for each facility on the basis of SPDs the proportion of TPDs used by the elderly

4 Apply these proportions to the corresponding institutional operating costs to estimate expenses to the aged and non-aged

5 Sum these expenses to a sub-total for each type of facility, and, together with general hospital LTC costs derived earlier, to a grand total for LTC services.

Table A.9 presents the allocation of LTC costs according to the steps outlined above.[2] The age distribution of total patient days is based on separation data. An inspection of per diem rates for old, young, and all ages reveals that they tend to fall into a fairly uniform range centred on approximately $65. A

2 Institution-specific utilization data were not obtained for private chronic hospitals and step 3 could not be followed for these facilities. Consequently, global averaging is used to allocate costs in private hospitals. Another stipulation concerns the St. Catharines Shaver Chronic Hospital. This hospital provided 4,096 ATC days in 1976. Since the cost of these days cannot be segregated from the remaining chronic days, they are added to the public chronic hospital total.

TABLE A.9
Long-term care costs to elderly and non-elderly patients by facility type, Ontario 1976 (1976 dollars)

Type of facility	All ages	0–64 years	65+ years
General hospital units			
Cost ($)	94,459,329	26,146,342	68,312,987
Patient days	1,363,032	377,326	985,706
Per diem ($)	69.30	69.30	69.30
Public chronic hospitals			
Cost ($)	75,080,087	23,059,201	52,020,886
Patient days	1,254,910	349,069	905,841
Per diem ($)	59.83	66.06	57.43
Private chronic hospitals			
Cost ($)	5,424,370	1,031,715	4,392,655
Patient days	169,830	32,301	137,529
Per diem ($)	31.94	31.94	31.94
Rehabilitation hospitals			
Cost ($)	35,573,978	17,961,741	17,612,237
Patient days	561,820	233,672	328,148
Per diem ($)	63.32	76.87	53.67
Total			
Cost ($)	210,537,764	68,198,999	142,338,765
Patient days	3,349,592	992,368	2,357,224
Per diem ($)	62.85	68.72	60.38

SOURCE: Gross (1978, 122)

few exceptions are evident. Costs in private chronic hospitals are much lower than in the remaining LTC varieties, which suggests that the care required in these facilities is not as demanding. As will be shown, per diem costs for private hospital patients are somewhere between the average LTC costs and the extended care rates.

There are some differences in per diem costs between the aged and non-aged, particularly in rehabilitation hospitals. For the most part this is explained by the presence in this category of three special rehabilitation hospitals – Lyndhurst Hospital, the Ontario Crippled Children's Centre, and the Royal Ottawa Hospital. On average, the gross operating per diem costs in these institutions are about three times those of general rehabilitation facilities. At the same time only a small proportion of their patients are elderly. Those two factors account for the concentration of non-elderly patients in

the more expensive rehabilitation hospitals and the consequent age difference in per diem rates.

EXTENDED CARE

Extended care (EC) is the kind of care that is normally given in nursing homes in Ontario. The allocation of EC costs entails an examination of fiscal and utilization information from nursing homes (NH) and homes for the aged (HFA). EC patients in nursing homes are of three kinds: regular extended, homes for special care (HSC) extended, and approved chronic. We obtained utilization data on regular extended and HSC patients from the OMH in the form of month-end census counts for the twelve months of 1976. An average of these twelve counts, subdivided by age, was extrapolated to the entire year by multiplying by 366 days (1976 was a leap year). This produced estimates of 7,187,142 days in regular extended and 1,917,840 days in the HSC category. Although sex distributions were not directly related to the age groups, it is known that on a monthly average in 1976, 31.55 per cent of all regular and HSC extended patients were male. We applied this factor to age classes in both EC categories in order to estimate the age and sex distribution of regular and HSC extended days.

Neither age nor sex distributions of approved chronic nursing home days were available for this analysis. On a monthly average, there were 311 such patients in Ontario nursing homes in 1976. Multiplied by 366, these patients received an estimated 113,826 days of care in that year. These days have been broken down according to the same age/sex distribution struck for regular EC patients.

With respect to costs, the Extended Care Accounts Section of the OMH reports that there were two fixed nursing home reimbursement rates in effect in 1976. In the first quarter of that year, nursing homes received $19 a day for patients at the extended and approved chronic levels. This was raised to $21 in the final three-quarters of 1976. By combining these two rates [($19 × .25) + ($21 × .75)], we estimated a yearly per diem figure of $20.50. This rate is used as the global daily cost per patient in the nursing home portion of EC.

Allocation of EC costs in HFAs follows a similar pattern. Utilization data obtained from the Senior Citizens Branch of the Ministry of Community and Social Services specify the age and sex of patients at the EC level on 31 December 1976. An age/sex distribution is approximated for the 11,094 EC patients in HFAs on that date. The Senior Citizens Branch reports that HFAs provided 4,065,437 EC days at an average daily cost of $27.70 during 1976.

TABLE A.10
Extended care costs to elderly and non-elderly patients by facility type, Ontario 1976 (1976 dollars)

Type of facility	All ages	0–64 years	65+ years
Nursing homes			
Cost ($)	188,985,564	32,207,529	156,778,035
Patient days	9,218,808	1,571,099	7,647,709
Per diem ($)	20.50	20.50	20.50
Homes for the aged			
Cost ($)	112,599,021	6,374,740	106,224,281
Patient days	4,065,437	230,135	3,835,302
Per diem ($)	27.70	27.70	27.70
Total			
Cost ($)	301,584,585	38,582,269	263,002,316
Patient days	13,284,245	1,801,234	11,483,011
Per diem ($)	22.70	21.42	22.90

SOURCE: Gross (1978, 126)

The year's end age/sex breakdown was used to estimate the distribution of these days. Expenditures were globally allocated between aged and non-aged EC patients on the basis of $27.70 per diem.

Table A.10 summarizes the allocation of EC program costs. Because of the global costing approach used here, EC per diem rates are assumed not to vary by age in NHs and HFAs. What is interesting is the divergence in average per diem rates between NHs and HFAs. The latter expended $7.20 or about 35 per cent more per day than the former on EC patients. Whether this reflects the presence of a sicker population in the homes for the aged or a more cost-efficient provision of services in NHs is a moot point. What is plain from these figures is that HFAs generate a higher proportion of EC days to the aged than do NHs. This explains the slightly higher average per diem costs of extended care to persons 65+ as revealed in the bottom row of Table A.10.

RESIDENTIAL CARE

Residential care (RC) is the type of care most commonly provided in homes for the aged, although some NH patients are also at this level. NHs accommodate two types of RC recipients: regular or intermediate and homes for special care (HSC) residents. According to census counts supplied by the OMH, 502

residential care users were in NHs at any given month's end in 1976. Extrapolated to the entire year, an estimated 183,732 days of care were provided to this group during that time. Unfortunately, no age or sex distributions of these days are obtainable. Therefore, they have been classified into the same age and sex groupings as HSC extended care days. This tack may introduce some upward age bias. HSC extended patients, because they need more nursing, may well be older than recipients of HSC residential care. In any case, the HSC program provides only about 3 per cent of total RC days. Hence, aggregated age and sex distributions for residential care will not be especially sensitive to variations in the HSC figures.

Since intermediate nursing-home care is not publicly subsidized, operators are not required to record information on these residents. Consequently their numbers have been estimated as the difference between total licensed bed capacity and the daily average sum of all publically subsidized NH patients.[3] The licensed capacity of NHs on 31 December 1976 was 27,124. On a daily average, 25,690 of these places are accounted for in regular EC (19,637), HSC extended (5,240), approved chronic (311), and HSC residential (502) programs (See Tables 30 and 31). The remaining amount – 1,434 – is taken as an estimate of the regular RC daily average. Of course, this approach assumes 100 per cent occupancy of all NHs. Though this was likely not the case, officials in both the Extended Care Program Branch and the Ontario Nursing Home Association informed us that NHs nearly always operate at full licensed capacity. In the last analysis, if there is slight overestimation of patient numbers in regular RC, its effect on the final tally of all RC days is expected to be negligible since regular RC residents were responsible for less than 10 per cent of the total. The annual provision of days to regular RC recipients has been calculated by multiplying their daily average times 366 ($1,434 \times 366 = 524,844$). Lacking any direct criteria, we then divided these days into the age and sex proportions that classified regular EC patients.

Turning to costs, information was obtained from the Extended Care Accounts Section of the OMH regarding per diem reimbursement rates for recipients of HSC residential care. Two rates were in effect in 1976 and these were combined to an estimated $17.48 average in the same manner as the NH extended care fee. No data on regular RC costs are available. Consequently, the $17.48 rate is also ascribed to this group.

Residential care in homes for the aged is somewhat less complicated to examine. As with EC data, the age distribution of the 14,507 RC residents in

3 This approach was suggested by officials in the Extended Care Program Branch of the OMH.

HFAs on 31 December 1976 had to be converted to the prevailing age groupings. We then applied this breakdown to the reported 5,087,452 days of care used by RC recipients in 1976. The details of these adjustments are the same as those reported in the previous section for extended care patients in HFAs. From fiscal data furnished by the Senior Citizens Branch of the Ministry of Community and Social Services, a per diem rate of $15.20 was calculated for the RC portion of the HFA program.

Table A.11 presents the results of the RC analysis. Per diem cost variation between NHs and HFAs is apparent but not marked. As in EC, the RC program in HFAs provides a greater proportion of its days to the elderly explaining the marginally reduced overall per diem costs to this group.

PSYCHIATRIC CARE

Psychiatric care (PC) is delivered in provincial psychiatric hospitals, general hospital units, and other public hospitals, including the Donwood and Clarke Institutes and the Clinical Institute in Toronto. Costs for the elderly in each of these three institutions are estimated on the basis of shares of patient days. Psychiatric unit costs have already been isolated and apportioned in the cost analysis of general hospital accounts.

The manner of allocating provincial psychiatric hospital expenses is different since their accounts are kept by fiscal year. Consequently, costs for the calendar year 1976 have had to be estimated from data overlapping this period. Specifically, one-quarter of fiscal 1975 (1 April 1975 to 31 March 1976) operating costs and TPDs in each psychiatric hospital were added to three-quarters of these expenses and days in fiscal 1976 (1 April 1976 to 31 March 1977) to arrive at approximate totals for calendar 1976. Once these were brought into temporal alignment with other kinds of PC facility, the costs were apportioned by the institutional averaging approach.

Table A.12 displays the results of this analysis together with data on psychiatric units and other public hospitals. This table reveals that PC costs cluster around $90 per diem with the exception of the 'other public hospitals' category, in which age differences are negligible but over-all per diem costs are greatly escalated. This reflects the higher costs of special service, labour, and administration at such facilities as the Clinical Institute of the Alcoholism and Drug Addiction Research Foundation. Noteworthy as well is the age variation in costs at provincial psychiatric hospitals. The average cost per patient day for persons 65 and over is $80.23, while the cost for the young is $91.18. This means that elderly patients in provincial psychiatric hospitals are, more than the young, accommodated in facilities with lower daily operating expenses.

TABLE A.11
Residential care costs to elderly and non-elderly patients by facility type, Ontario 1976 (1976 dollars)

Type of facility	All ages	0–64 years	65+ years
Nursing homes			
Cost ($)	12,385,908	2,359,887	10,026,021
Resident days	708,576	135,005	573,571
Per diem ($)	17.48	17.48	17.48
Homes for the aged			
Cost ($)	77,330,902	6,155,540	71,175,362
Resident days	5,087,452	405,049	4,682,403
Per diem ($)	15.20	15.20	15.20
Total			
Cost ($)	89,716,810	8,515,427	81,201,383
Patient days	5,796,028	540,054	5,255,974
Per diem ($)	15.48	15.77	15.45

SOURCE: Gross (1978, 128)

TABLE A.12
Psychiatric care costs to elderly and non-elderly patients by facility type, Ontario, 1976 (1976 dollars)

Type of facility	All ages	0–64 years	65+ years
General hospital units			
Cost ($)	51,944,374	46,718,770	5,225,604
Patient days	556,406	500,432	55,974
Per diem ($)	93.36	93.36	93.36
Provincial psychiatric hospitals			
Cost ($)	148,869,545	109,803,552	39,065,993
Patient days	1,691,098	1,204,203	486,895
Per diem ($)	88.03	91.18	80.23
Other public hospitals			
Cost ($)	15,883,296	15,110,892	772,404
Patient days	88,515	84,246	4,269
Per diem ($)	178.44	179.37	180.93
Total			
Cost ($)	216,697,215	171,633,214	45,064,001
Patient days	2,336,019	1,788,881	547,138
Per diem ($)	92.76	95.94	82.36

SOURCE: Gross (1978, 130)

APPENDIX B

Opinions of elderly Ontarians

Older people are increasingly requesting, and even demanding, the right to take part in decisions that affect their lives, including decisions about health matters. Organized groups of senior citizens proclaim what seem to them to be obvious health needs of elderly Ontarians and have expressed increasing criticism of the health care system. Because the future cost of health care for the elderly will depend partly on what services are provided, it is useful to look at some of the opinions and suggestions being made by the elderly about those services.

Since pressure groups may be expressing the opinions only of a small proportion of non-representative and politicized elderly pensioners, we decided to survey a random sample of the elderly in this province to see what they think about their own health, other important matters related to health, and the health care system. We have selected certain findings from this opinion survey to include here. A more complete report is available on request from the Ontario Economic Council (Osborn and Sanders, 1978, 'The Elderly in Ontario.'

A few months after the completion of that study, the Ontario Advisory Council on Senior Citizens sent out a variety of questionnaires to all old age pensioners in Ontario. Included here is a selection of the responses received to the health questionnaire. A more detailed report, the *Especially for Seniors* survey, 1978, can be obtained from the Ontario Advisory Council on Senior Citizens.

OSBORN-SANDERS STUDY (THE ELDERLY IN ONTARIO)

The survey was conducted by V.J. Sanders under the direction of R.W. Osborn, Chairman of the Department of Preventive Medicine and Biostatis-

tics, Faculty of Medicine, University of Toronto. Interviews were carried out with 417 elderly Ontarians in February and March of 1978 in five 'urban' areas (populations over 25,000) and four 'rural' areas (populations under 25,000) in northern and southern Ontario. As it proved impossible to get a random sample of elderly Ontarians, an attempt was made to get an equal division between urban and rural, male and female, young-old (65–74) and old-old (75+).[1] Of the persons interviewed 221 were urban, 196 rural, 189 male, 228 female, 231 young-old, and 186 old-old.

The Ontario Advisory Council on Senior Citizens helped to draw up the questionnaire. Thirty-five interviewers, of whom fifteen were over 65, were chosen and trained. It was found that these older interviewers had very commendable interviewing techniques: they were very reliable, could be depended on to meet deadlines, and were extremely interested in obtaining satisfactory results, even during the worst of winter weather.

Because of the difficulty in sampling and the high rate of refusals (20.3 per cent) and no answers (31.5 per cent), we must be careful in generalizing from the results of the survey. The majority of the potential respondents who could not be contacted were away on holiday according to neighbours or relatives answering the telephone. Some of the demographic characteristics of the survey sample – marital status, education, and labour force activity were compared with the 1976 census; income was compared with the 1976 Federal Household Survey. The proportion of elderly women in the survey sample was more or less the same except for a slightly higher proportion of single women and a slightly lower proportion of widowed old-old women. The marital status of the men, however, was less representative: there were too many married men, too few widowers (both young-old and old-old), and too few old-old single men. Both the elderly men and women were somewhat better educated, i.e. fewer had only primary school education, and more had university education. A comparison of labour force activity showed the proportions to be fairly close. The women were virtually identical, and there was a slightly lower percentage of employed elderly men. Income comparisons showed the 1978 sample to have a lower proportion of old-old men and young-old and old-old women with incomes of less than $5,000 and a much higher proportion of young-old and old-old women with incomes of more than $10,000. Increases in transfer payments to the elderly during the two years since the census and the Federal Household Survey may have accounted for some of the differences.

1 Note the difference in definition of old-old from the main body of this study.

TABLE B.1
Problems in procuring health aids (percentages of respondents complaining of difficulties)

	Cost	Availability	Fit	Other
Glasses and eye care	6.2	1.6	0.5	0.2
Hearing aids and care	1.4	1.0	0.5	0.0
False teeth and dental care	4.6	1.2	2.9	0.0
Special shoes and foot care	3.1	4.8	0.7	0.0
Canes, crutches, wheelchairs, etc.	0.7	0.5	0.0	0.0

SOURCE: Osborn and Sanders (1978)

In short, then, the sample contained larger proportions of urban, female, and young-old persons than the elderly Ontario population, and the participants were somewhat better educated, more affluent, and less often widowed. This is not an unfamiliar picture in social surveys of the aged.

The following are selected findings from this survey. (Keep in mind that urban refers to communities over 25,000, rural to communities under 25,000, young-old to ages 65–74, and old-old to ages 75+).

Attitude to health
Approximately one half (49.9 per cent) reported their health to be good, 40.8 per cent to be fair, and 9.4 per cent to be poor. In almost all age and sex categories, the rural elderly felt their health to be better than did their urban counterparts.

Activities and mobility
Only 34.4 per cent had to give up some of their activities during 1977 because of health problems. Over one-half of these were given up for three months or less. The rural elderly reported less interruption of regular activities. Seventy-one per cent of respondents described themselves as ambulatory, 22.5 per cent as having limited restriction, 6.2 per cent as housebound, and 0.2 per cent as bedfast. The urban sample reported much more lack of mobility.

Problems in procuring health aids (Table B.1)
Well over 90 per cent reported no difficulty. However, cost did appear to be a problem in a small, though important, minority of cases, especially with

TABLE B.2
Understanding shown by physician and satisfaction with treatment (percentages)

	Urban				Rural				
	Men		Women		Men		Women		
	65–74	75+	65–74	75+	65–74	75+	65–74	75+	Total
Doctor understands									
Very well	75.0	69.2	61.7	61.4	74.4	81.6	73.5	75.6	70.8
Adequately	21.4	20.5	31.7	31.6	20.9	13.2	24.5	22.0	24.0
Not well or not at all	3.6	10.3	6.7	7.1	4.6	5.3	2.0	2.4	5.2
Satisfaction with treatment									
Very satisfied	72.6	64.9	61.4	57.1	69.0	75.7	66.7	73.0	66.9
Satisfied	23.6	27.0	31.6	37.5	28.6	21.6	31.3	27.0	29.0
Not satisfied or very dissatisfied	2.6	8.1	7.1	5.4	2.4	2.7	2.1	0.0	4.1

SOURCE: Osborn and Sanders (1978)

TABLE B.3
Reasons for entering an institution (percentages)[a]

Reason	Very important	Somewhat important	Not very important
Advice of doctor	73.6	14.2	12.2
Poor health	69.4	19.4	11.1
Can't afford necessities	58.0	18.7	23.3
Become burden	57.0	24.6	18.5
Isolated from family and friends	46.3	17.9	35.8
Can't manage housework	39.1	32.1	28.8

a Almost none of the respondents were living in institutions; 4.8% had applied for admission.
SOURCE: Osborn and Sanders (1978)

regard to glasses and eye care. The availability of special shoes and of foot care is a more serious problem than cost. Not surprisingly, women complained more about foot problems than men, especially rural old-old women (19.6 per cent had problems). Canes, crutches, wheelchairs, and so on appeared to be a bit of a problem for old-old urban men (cost 5.0 per cent) and old-old rural men (cost 4.9 per cent).

Attitude to physicians and to medical care (Table B.2)
An overwhelming majority of patients said that the doctor understood their health problems at least adequately (94.8 per cent) and that they were at least satisfied with treatment from the doctor (95.9 per cent). Indeed, over two-thirds said that the doctor understood them very well and that they were very satisfied with the treatment (see Table B.2). The rural elderly were more pleased with their physicians and treatment than their urban counterparts (with the exception of young-old men). Men were happier with their physicians and treatment than women.

Reasons for entering institutional care (Table B.3)
4.8 per cent were applying or were on the waiting list for admission to a nursing home or to a home for the aged. The percentages tended, of course, to be higher for the old-old and for women and were particularly high in rural areas. The two most important reasons given for moving to an institution were the strong advice of a doctor and a worsening health condition; next came poverty (can't afford necessities), being dependent (becoming a burden), and isolation from family and friends. Note that inability to manage

TABLE B.4
Services available to elderly (percentages)

Service	Used	Not used	
		Know about them	Don't know about them
Private housework	20.4	75.3	4.3
Victorian Order of Nurses	16.5	79.9	3.6
Public health nurse	16.1	77.9	6.0
Home Care Program	12.3	69.7	18.0
Organized homemaker service	9.1	75.5	15.3
Meals-on-wheels	7.0	89.4	3.6

SOURCE: Osborn and Sanders (1978)

the housework is considered to be at least somewhat important in over two-thirds of cases.

Voluntary euthanasia

In answer to the question 'Do you think an elderly person should be kept alive, perhaps against his will, by mechanical or other means when there is little chance for recovery?' 15.8 per cent answered 'yes' in spite of the biased wording of the question, 2.1 per cent said it depended on the individual, and 0.3 per cent would refer the case to a panel of five doctors. Four-fifths (81.8 per cent) answered 'no' to the question.

Awareness and use of community services (Table B.4)

When the respondents were asked what services in the community they had used, at the top of the list came private housework followed by the Victorian Order of Nurses and public health nurses. Unfortunately we have no idea at what stage in the life of the elderly respondents these services were used.

It is interesting to note that of the 18 per cent who had not heard of the home care program, a far higher percentage lived in rural areas. The same was true of the 15 per cent who had not heard about homemaker services. All of these services tended to be used and to be heard about by the old-old, by women, and in urban rather than in rural areas.

Employment and retirement

4.1 per cent of the respondents were working full-time, 7.2 per cent part-time, 66.7 per cent were retired, and 22.1 per cent were housewives. Not surprisingly, far more full-time and part-time jobs were held by men and by

TABLE B.5
What would you have done differently to prepare for old age? (percentages)

Nothing	83.2
Saved more	4.8
More education	3.4
Better investments	2.9
Better pension	2.2
More hobbies	1.7
Retired sooner	0.7
Died	0.7
Spent more	0.5

SOURCE: Osborn and Sanders (1978)

the young-old. Reasons given for retirement were age ('obliged to') – 34.8 per cent, worked long enough ('entitled to') – 28.3 per cent, and health reasons – 23.8 per cent.

When asked what they would have done differently to prepare for old age, 83.2 per cent would have done nothing differently. Of the remaining 16.8 per cent the most common answer by far is related to money: more savings, better investments and better pensions. It is interesting that better health habits are not mentioned in this open-ended question (see Table B.5).

Income

18.6 per cent of the respondents had an income of $0–2,500; 41.0 per cent $2,500–$5,000; 20.1 per cent $5,000–$7,500; 9.3 per cent $7,500–$10,000, and 11.1 per cent $10,000+. Income was lowest among the rural elderly, the old-old, and women. When asked how well the amount of income they had took care of their needs, 29.7 per cent of the respondents answered 'very well,' 58.0 per cent answered 'adequately' or 'fairly well,' 10.9 per cent 'not very well,' and 1.4 per cent 'not well at all.'

Education

42.7 per cent had eight years or less, 35.5 per cent 9–12 years, 12.5 per cent a high school diploma, 6.0 per cent some university, and 3.4 per cent a university degree. A higher proportion of women than men had a high school diploma, and more men than women had at least some university education.

Marital status

Of the men, 87.1 per cent of the young-old and 81.4 per cent of the old-old were still married, whereas in the case of women, only 47.1 per cent of the young-old and 21.9 per cent of the old-old were still married.

TABLE B.6
Reasons for dissatisfaction with accommodation
(percentages of those who were dissatisfied)

Difficult to get heavy work done	33.3
Accommodation needs repairs	27.2
Too expensive	18.1
Too many stairs to climb	15.2
Unsatisfactory location	12.1

SOURCE: Osborn and Sanders (1978)

Children and friends

Over three-quarters (76.0 per cent) had living children or grandchildren. 62.5 per cent of these saw them very often, 30.9 per cent occasionally, 5.7 per cent seldom, and 0.9 per cent never. As for close friends and relatives (other than children or grandchildren) 46.5 per cent saw them very often, 34.3 per cent occasionally, 14.1 per cent seldom, and 5.0 per cent never.

When asked whether they had to give up things they would ordinarily have done during 1977 because of the ill health of their spouse or of a close friend, over one-fifth (21.8 per cent) said 'yes.' The proportions were much higher in urban than in rural areas and particularly high in old-old urban and rural men, who are hit very hard when their wives are disabled.

Accommodation

60.9 per cent of respondents lived in private homes, 28.8 per cent in self-contained apartments, 9.6 per cent in senior citizens housing projects, 0.5 per cent in boarding homes and 0.2 per cent in rented rooms (with no kitchen). A much higher proportion in rural than in urban areas lived in private homes, and, not surprisingly, a much higher proportion of the urban elderly lived in apartments and senior citizens' housing.

92.1 per cent of the sample expressed satisfaction with their housing. Of the 7.9 per cent who were dissatisfied, a higher proportion occurred generally in rural areas, among old-old men, and young-old women (see Table B.6).

When asked if they were choosing an apartment whether they would prefer to have neighbours of the same age, 49.3 per cent said 'yes,' 20.0 per cent said 'no,' and 30.8 per cent said they didn't care. A higher proportion of the rural elderly wouldn't care one way or another.

Transportation

One person in six (16.4 per cent) had trouble doing things they need or would like to do because of lack of transportation. The urban elderly had

TABLE B.7
Trouble because of lack of transportation (percentages)

	Urban				Rural				
	Men		Women		Men		Women		
	65–74	75+	65–74	75+	65–74	75+	65–74	75+	Total
Yes	7.4	18.4	25.8	25.6	4.1	10.0	15.5	23.9	16.4
No	92.6	81.6	74.2	74.4	95.9	90.0	84.5	76.1	83.6

SOURCE: Osborn and Sanders (1978)

TABLE B.8
Availability and use of public transportation (percentages)

	Urban				Rural			
	Men		Women		Men		Women	
	65–74	75+	65–74	75+	65–74	75+	65–74	75+
Available	98.2	92.3	98.4	95.9	39.6	45.0	49.1	63.6
Use it if available	48.1	51.4	74.2	62.2	23.8	38.9	40.7	60.7

SOURCE: Osborn and Sanders (1978)

more trouble than the rural elderly, women more than men, and the old-old more than the young-old (see Table B.7).

16.4 per cent of the respondents stated that they had to give up the following activities because of lack of transportation: shopping 61.3 per cent, visiting friends and relatives 53.6 per cent, going to church, club meetings, etc. 33.1 per cent, recreation 25.3 per cent, obtaining health care 19.0 per cent.

Public transportation was available to 74.1 per cent of the elderly but was used by only 54.5 per cent. Table B.8 shows a breakdown of availability and use by urban-rural, age, and sex.

Ideas about health care and other matters (Table B.9)

The respondents were asked whether they agreed or disagreed with thirteen questions about health care and government responsibility. Differences should be noted between rural and urban, between men and women, and between the young-old and the old-old, always keeping in mind that this was not a random sample of the Ontario population.

TABLE B.9
Opinions of elderly on health and health care (percentages)

	Urban				Rural				
	Men		Women		Men		Women		
Opinion	65–74	75+	65–74	75+	65–74	75+	65–74	75+	Total
Understand own health better than most doctors	60.7	64.1	61.9	73.2	36.8	70.0	50.9	37.8	57.3
Pensioners should not be taxed	71.4	69.2	61.9	78.6	49.0	65.9	78.6	68.9	68.1
Have to expect a lot of aches and pains	74.1	89.2	73.4	82.8	75.5	82.9	59.3	78.3	76.0
Elderly health care costs too much	23.6	29.7	31.7	34.0	22.2	27.0	25.5	41.9	29.4
Doctors give you lots of time and attention	93.1	84.2	82.8	92.9	83.7	79.5	84.5	86.4	86.2
Nursing home care is inadequate	50.0	62.5	60.0	45.5	17.6	38.5	33.3	45.7	43.7
Unsure of available services	49.1	70.0	52.5	62.3	37.5	55.0	43.9	48.9	51.9
Facilities in homes for aged OK	62.5	63.6	66.0	66.7	87.5	96.9	85.7	72.2	75.2
Home visit from nurse if MD can't come	87.9	92.1	84.4	89.3	87.8	97.6	84.7	87.0	88.3
More beds needed in homes for the aged	88.0	89.3	85.0	90.0	83.3	83.8	75.5	82.1	84.4
Elderly should be supported by general taxes	85.5	100.0	83.9	94.2	68.9	77.8	69.1	73.7	81.7
Government pensions should be indexed	100.0	100.0	96.9	93.0	100.0	92.7	100.0	93.3	97.1
Old people should go on paying school taxes	12.1	17.5	20.3	10.5	30.0	22.0	22.8	25.0	19.7

SOURCE: Osborn and Sanders (1978)

TABLE B.10
What should be done for the elderly and by whom? (percentages)

12.0	Taxes, etc.	Decrease in taxes, especially school taxes; government should provide foot care, drug costs, home care, dental work, wheel chairs, more escalators.
9.8	Pensions	Larger pensions to those who need the money; means tests for pensions; available at 60.
9.4	More support	More support from the community; more visits from young people; more counselling; more drivers; more health clubs; a raising of the public consciousness; clarity of official forms; more protection; less paper work; more communication with the community; more recreation facilities; better bus service; more dignity in daily living.
7.2	Own homes	People should be allowed to stay in their homes as long as possible. This would necessitate more home help; food price control; tax index; lower rates for electricity, water, gas, oil; more snow removal; better garbage pick-up.
7.0	Low-rent housing	More low-rent housing should be available for the elderly; rent control; lower mortgages; no residence requirement for low-rent housing.
3.8	Nursing homes	Improvements for nursing homes including facilities for privacy, fresh fruit, bathroom facilities more available, better hygiene, better quality care, lower cost, better supervision.
2.7	Meeting places, etc.	Places to meet, more entertainment and adequate transportation to theatres, etc. Courses in geriatrics; plots available for gardening; in entertainment places the doors are too heavy and move too quickly.
0.5	Landlords	Landlords should be more understanding.
47.5	Nothing	

SOURCE: Osborn and Sanders (1978)

What should be done for the elderly (Table B.10)
When asked what could and should be done, and by whom, to improve the conditions of the elderly, 47.5 per cent answered 'nothing.' 52.5 per cent gave a variety of answers.

Willingness to work with others (Table B.11)
When asked 'would you be willing to work together with other persons to suggest ways in which health care and other services could be improved?'

TABLE B.11
Would you be willing to work with others for the elderly? (percentages)

Willing to work with others	Urban				Rural				Total
	Men		Women		Men		Women		
	65–74	75+	65–74	75+	65–74	75+	65–74	75+	
Yes	51.7	27.5	57.8	30.5	44.0	43.4	48.3	41.3	44.0
No	46.6	72.5	42.2	69.5	56.0	56.1	50.0	58.2	55.5

SOURCE: Osborn and Sanders (1978)

44.0 per cent said they would be willing. The proportion was generally lower among men and the old-old. The rural old-old seemed considerably more interested than their urban counterparts. The reverse was true in the young-old, where the urban sample seemed more willing to work with others.

ESPECIALLY FOR SENIORS SURVEY

In July 1978 the Ontario Advisory Council on Senior Citizens sent questionnaires as part of their newspaper, *Especially for Seniors* to every person 65+ in the province (a total of about 780,000). The questionnaires focused on four areas – health, housing, education, and income maintenance. Some 2,000 responses were received, constituting 0.26 per cent of all pensioners, which is admittedly not a very high proportion and not in any way a random sample of elderly Ontarians. They had to be relatively strong-minded to clip out the questionnaires, fill them out, and mail them back using their own envelopes and postage. However, the answers to the questions are of interest because they are generally in agreement with the results of the Osborn-Sanders survey. Table B.12 presents some demographic and socio-economic data about the respondents.

About 200 people who felt they could not do justice to their response within the confines of the questionnaire wrote letters as well. An attempt was made both to examine and compile at least some of their answers to the health questionnaires and to collect excerpts from their letters, which were analysed by Georgia Woods.

Health questionnaire

Seven hundred and twelve answers to the question 'do you take positive steps to maintain your health?' were analysed; of the 99 per cent that

TABLE B.12
Characteristics of respondents to *Especially for Seniors* questionnaires, Ontario 1978

Sex:	single male 35%	single female 57%	couples 8%
Accommodation:	house 62%	apartment 30%	other 3%
Age:	65–74 64%	75+ 36%	
Location:	urban (5,000 or more) 80%	rural (fewer than 5,000) 20%	

SOURCE: Ontario Advisory Council on Senior Citizens (1978)

TABLE B.13
What is wrong with medical care? (percentages of 14% who were dissatisfied)

Poor care from doctors (rushed or unconcerned or unavailable at times)	70.8
Poor hospital care (insufficient or unconcerned staff, lack of co-operation)	16.0
Medication problems (expensive, not on drug list, too many prescribed, no drug stores)	13.2
Poor auxiliary care (dental and eye care too expensive or not available)	12.3

SOURCE: Ontario Advisory Council on Senior Citizens (1979)

responded 'yes,' 53.4 per cent gave regular visits to the doctor as a way of maintaining their health. The answer to the question 'are you satisfied with the availability and quality of medical care that you receive in your community were analysed on 736 questionnaires. 86 per cent said 'yes' and 14 per cent said 'no.' Of those who answered 'yes,' 52.1 per cent referred to good care from doctors, 17.6 per cent to good hospital care, and 8.4 per cent to the availability of drugs. Table B.13 refers to the 14 per cent that answered 'no.'

Seven hundred and twenty-three answers to the question 'what is your feeling toward institutional care available to you in your community?' were analysed. Sixty-nine per cent of the answers were favourable and 31 per cent unfavourable. The unfavourable responses are tabulated in Table B.14.

Letters about health

The two hundred senior citizens who wrote letters about health matters expressed a wide range of opinions about the adequacy of health services to meet their needs. There was, for example, the comment, 'They never had it so good.' Several were satisfied with health care. More prevalent, however, were fears and worries about the cost of health services, dissatisfaction with institutional care, and confusion about available services. All these problems

TABLE B.14
What is wrong with the institutional care available in your community? (percentages of 31% who were dissatisfied)

Not available or long waiting period	14.6
Care inadequate, time pressure, etc.	11.6
Attitude indifferent or poor	11.4
Facility (plant) unsatisfactory	5.3
No privacy	3.2
No rehabilitation	1.2

SOURCE: Ontario Advisory Council on Senior Citizens (1978)

were more severe in rural areas. Some respondents also expressed hostility towards the medical profession.

The respondents emphasized their desire to remain in their own homes. They said that one's enjoyment of health, life, and death are enhanced in one's accustomed surroundings.

Weaknesses in the delivery and expense of health services were highlighted by the experience of these seniors. In many cases there were obstacles that hindered good health practice and seniors' attempts at preventive health care. Insufficient income was seen as a major obstacle within the health care system.

Health care professionals

Many seniors expressed dissatisfaction with services and the quality of treatment. Doctors were criticized on several counts. Some reported having difficulty obtaining appointments, with the rural areas being hardest hit. Some were angry about doctors who did not listen to their health problems. Physicians were frequently described as being deaf to older persons' questions about their health, and for that reason some respondents were afraid of poor medical care and had become apprehensive and suspicious of the medical profession. Being treated abruptly by health care personnel was an experience often referred to. Indifference and lack of interest also seemed common. This was interpreted as being related, at least in part, to their old age.

> Health care today is entirely different from past years where one could go to the family doctor and discuss the ailment, and if no solution was available they were further referred to a clinic for further diagnosis. The doctor then was a family friend. Now it is entirely different, and, as we found out when we moved, it was quite

difficult to get an apointment with an established doctor. A house visit was almost impossible to get.

The present set-up of medical services for preferred treatment is greatly restricted – invariably on going to an MD for the regular pains of aging as for example, leg pains, back aches, arthritis, etc., the symptoms are only relieved temporarily by medication. Diagnosis by the MD is mostly made visually in a matter of a few minutes and because we are in our 70s we are expected to accept the inevitable 'fact' that age and pains are synonymous.

Nursing care has deteriorated since nurses have been moved from hospitals to community colleges. Training is inadequate in the most important aspect – care and concern for the individual, and nurses are so rushed that they often treat sick people, *especially old people*, abruptly.

Cost of health care

Low and fixed incomes are a source of frustration for many respondents in the pursuit of good health. Transportation for medical purposes is often described as too expensive, and as a result the elderly will only seek medical counsel when absolutely necessary. Income was said to make transportation, specialists, and medicines luxury items beyond the reach of some pensioners. New OHIP regulations were a source of anxiety. Dental care and eye care are other areas where seniors find their income inadequate. One respondent explained that he had to take from his food budget to pay for medical expenses.

Dentists are very expensive. By allowing dentists' organizations to outlaw advertising competitive fees and failing to establish maximum fees, the government contributed to the wealth of the dentists but deprived the poor and the old of proper dental care. Eye glasses have gone up so much in price that they are a luxury and far beyond the buying power of most pensions. Therefore, some dental care and eye care plans should be established for the senior citizen.

If a senior citizen is in need of a specialist, the difference he has to pay, between the official OHIP price and the specialist's price is very great, thus the senior citizen is deprived [of] the proper medical help and care.

Doctors are hard to get for everyone. I believe that some medical centres other than hospitals should be established, maybe with nurses, where one could phone or go to, when doctors' offices are closed. It would be less expensive than emergency wards, and more convenient for those not close to a hospital.

Some proposed that Wintario funds be used for health and dental costs. Others suggested that the method of delivery should be investigated. Mobile

health clinics and medical health centres were recommended because they would lower the cost of transportation and would reduce elderly people's dependence on family and friends who have to transport them and wait for them. They could also reduce health costs by allowing seniors to take preventive steps to maintain their health.

According to the respondents, three kinds of treatment seemed to be inadequate. First, footcare is a problem for some because it is unavailable or too expensive. Secondly, it was suggested that doctors of osteopathy should be allowed to practise because they provide an alternative and look 'for the cause of a problem, not just the sympton.' Thirdly, mental health services were said to be unavailable to many, especially in rural areas. 'No possibility of getting help for mental health. Only one psychiatrist ... in town of 60,000, and he is *not* available. Mental health organization composed of inexperienced, well meaning volunteers, but importance of respecting confidences not realized.'

Institutional care

Many seniors wrote on behalf of the elderly in general that are in nursing homes and institutions. Although some seniors were afraid of institutions and adamantly expressed their desire to stay far away from them, others believed that more establishments with nursing care were needed. Many expressed dissatisfaction with institutional care. Several seniors claimed that, owing to neglect of staff, their friends or relations had died. In general it was felt that building standards and building design were inadequate. The care of residents was described as rough and indifferent, and it was claimed that institutions were understaffed, personal possessions were stolen, and the food was inedible or insufficient. Better screening of residents to ensure the suitability of care and more stringent supervision and inspection of Nursing Homes and Homes for the Aged were recommended.

Those of us over 60 never know when we will need nursing care. They are a disgrace, so 'clean them up' before you or your loved ones need one. My husband is there ... I visited several around here to pick the best ... Their owners are making 'much money' as no clear code or regulations have been established. The builders of these institutions don't take into account the needs of those that are handicapped, e.g., in wheelchairs, arthritic, etc.

We have a home in our town, but it repels me. Not because it is unclean. It is not. It is, however, an institution, not a home. It is cold and to me, very official, lacking warmth. The residents share a room with others, (four in a room) no privacy at all.

I see so many residents just walking 'ghosts' with no interests, just lonesome. They have lost the will to live. They need something to restore an interest in life. Maybe

when entering a 'home', their individual skills could be assessed and used in some way.

Care at home

Respondents said that their health and recovery from illness were better in familiar surroundings. They emphasized their preference to have more health supports brought into the home. Availability and affordability were however currently two restrictive factors. Greater proximity to health services was said to reduce the anxiety about transportation costs. Short-term health support services at affordable costs for those recovering from illness were asked for by many seniors. Often the family was filling this need, but this was described as emotionally and physically draining. Where there was no family or where family resources had been exhausted, the senior had little or no recourse but to look for supervised accommodation.

In respect to seniors 70 years and over, living with their family. The head of the family should be paid a monthly sum, to take care of the senior, in health, recreation, good food, and attendance when sick. This I believe would reduce the flow to the homes for the aged and nursing homes.

For those seniors able to care for themselves but unable, because of disability to maintain their home, home help is requested. As regards senior citizens' buildings, the respondents said that medical, dietary, and recreational care and a different kind of accommodation were needed.

What is needed are senior citizen housing in suitable locations in every community. Some subsidized, some self-supported. All should be provided with medical-nurse and dietary and recreational services.

Why could we not have more apartment type homes, where seniors who are unable to cook could use the dining room facilities and yet have the privacy and enjoyment of their own apartment.

Death and dying

Several seniors wrote about their desire to remain in familiar surroundings to die.

I, myself, would rather not enter a hospital for the aged, and would prefer to stay with my daughter until I die. I am thoroughly frightened at the treatment accorded one in hospital and by doctors, who tend to dismiss everything as 'problems of age.'

Don't send us to the hospital to die, where the nurses are too busy to help us, too busy to feed us, too busy to [take us] to the bathroom, too busy to put us back in bed after a long time sitting in a chair.

When our number is called, let us go, do not use the heart machine, no intravenous, just let us go to that happy place peacefully.

Abbreviations

ALOS	Average length of stay
ATC	Active treatment care
CHC	Chronic home care
DHC	District health council
EC	Extended care
GAINS	Guaranteed Annual Income System (Ontario)
GIS	Guaranteed Income Supplement (Federal)
HC	Home care
HFA	Home for the aged
HIS	Health Interview Survey (U.S.)
HSC	Home for special care
HS-1	Annual return of hospital: part one
HS-2	Annual return of hospital: part two
LTC	Long-term care
LTU	Long-term unit (general hospital)
M-PC	Maternity-paediatric care
NH	Nursing home
OBC	Ontario Broad Code
OHIP	Ontario Health Insurance Plan
OMH	Ontario Ministry of Health
OPS	Outpatient services (general hospital)
PASS	Placement and support services information system
PC	Psychiatric care
PCS	Placement co-ordination services
PU	Psychiatric unit (general hospital)
RC	Residential care
SPD	Separated patient day

STC	Short-term care
TEIGA	Ontario Ministry of Treasury, Economics and Intergovernmental Affairs
TPD	Total patient day
VON	Victorian Order of Nurses

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